GETINGE

Blue 80/80 Field Light, Installation, Operators, Service and Parts Manual.

HAN40527, Rev A

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DESCRIPTION OF SYMBOLS & NOTES IN MANUAL

"Danger" notes alert the user to the possibility of serious injury or death.

"Warning" notes alert the user to the possibility of personal injury.

"Caution" notes alert the user to the possibility of damage to the equipment.

"Notes" alert the user to pertinent facts and conditions.

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The following is the suggested tool list for proper installation.

Tools Required for Installation of the Blue 80/80 Field Light

Item
Socket Set up to 1" socket
Flatblade Screwdriver #1 and #2
Phillips Screwdriver #2 and #3
Wire Cutters
Tape Measure
Open/Closed End Wrench set to 1"
Metric Allen Set
Electric Drill
9/16" Drill Bit
Digital Multimeter

The following is an inventory checklist of items for Blue80/80 Field Light System

Received	Part Number	Item Name
BLUE80/80CASE SHIPPING CONTAINER		
Yes No	BLUE80/80 CASE	Container, Reusable Shipping (1)
Yes No	5607-7852	Blue 80 Lightheads (2)
Yes No	HAN40489	Assembly, Power supply, Army (1)
Yes No	5605-3036	Bulb: B80 21.5v 130w (2)
Yes No	5605-0756	Handle: Plastic, 200 series (3)
Yes No	5605-0756	Handle: Plastic, 200 series (3)
Yes No	HAN40457	Blue 80/80 Field Light, Installation/Operators Manual (1)
ISO Mounting Kit		
Yes No	HAN40457	Assy, conduit, 1/2" emt (1)
Yes No	HAN40460	Assy, ring, anchor plate (1)
Yes No	HAN40464	Toggle, spring wing (4)
Yes No	HAN40465	Screw, rh, .250-20, UNC-3A (4)
Yes No	HAN40466	Plate, holding, velcro (2)
Yes No	HAN40467	Template, mtg, xfmr box, army (1)
Yes No	HAN40468-24	Strap, velcro, 2" x 24" (1)
Yes No	HAN40468-40	Strap, velcro, 2" x 40" (1)
Yes No	HAN40475	Cover, transport, arm (2)
Yes No	HAN40482	Conn., Turn lock, female 20amp (1)
Yes No	HAN40487	Assy, cable, ac out, external (1)
Yes No	HAN40541	Brkt, mtg, elect box, army (2)
Yes No	HAN40551	Nut, wire, twist, yellow (6)
Yes No	X0216	Tape, electrical, black (1)
Yes No	HAN40580	Bubble Level(1)
Suspension System		
Yes No	569004905	Ceiling Flange (1)
Yes No	569004990	Suspension, Duo, Blue 80 (1)
Yes No	569004991	Spring Arm (2)

Table 1: Part Inventory Checklist

Section 1: General Description:

The dual Blue 80 light system is designed for installation into a military ISO Shelter. It is a light system that can be disassembled and assembled for rapid deployment of the shelter. The main and spring arms are permanently secured to the shelter, and the lampheads and power supply are removable for shipment.

1.1 Blue 80 Lamphead

- Multifunctional filter and reflector system with 1,500 facets and specially coated reflector provides high precision, true-to color and neutral white light
- Illuminance at 80,000 lux
- Equipped with a two-stage interference filter for additional infra-red filtering
- Automatic back-up system from primary to secondary light source
- Integrated ON/OFF switch, easily accessible on the light head
- Sterilizable Handle
- Full rotation around the central axis with accurate positioning where required

Table 1 provides technical data on the Blue 80 lamphead and power supply.

1.2 Blue 80/80 Power Supply

The power supply was designed for installation into a portable military ISO shelter. Mobility of this system was a major consideration, thus the Blue 80/80 power supply was designed to be hung via a wall mounted bracket assembly, and electrically connected with simple quick disconnects on both the AC input and the AC output lines.

The Blue 80/80-power supply has a matched pair of transformers. Each transformer supplies power to one lamphead. The transformers step-down the incoming voltage (110VAC to 120VAC) into multiple secondary voltages, ranging from 24.5VAC to 27.5VAC, to accommodate for tolerances with incoming voltages and wiring resistance.
Power resistors are placed in series with both outputs to reduce the voltage sent to enable the bulb to operate at its specified 21.4VAC.

An inline fuse assembly is mounted on the output of the transformer to protect both lightheads. The fuse is rated at 9 amps, 32 volts. The circuit is protected on the primary side by SPDT 20-amp breaker switches installed on the front panel. Both switches are labeled and switch the incoming AC power to each light. The breakers have visible light indication, showing the ON/OFF switch position.

The input AC voltage is fed into the housing with a female connector. It is mated with a turn lock style, male connector. This turn style connector is embedded within the housing enclosure and will mate up to the input connector. These connectors are a quarter locking twist design thus ensuring positive connection when mated together.

The output AC low voltage connection utilizes a female plug connector. This, in turn, will mate up to a matched male connector and will be terminated at a junction box for the cable run to the ceiling mounted light system.

1.3 Blue 80/80 Suspension System

The Blue 80/80-suspension system is made up of (3) section. The upper section is a (2) plate system; a mounting plate that attaches directly to the ceiling of the shelter, and a suspension plate that attaches to the mounting plate. The dual extension arm is secured to the suspension plate, and the spring arms are secured to the main arm. Table 1 provides technical data on the Blue 80-suspension system.

Lighting Data	**Blue 80 Lamphead**
Illumination Ec at 39.5 in(1m) distance	80,000 lux
Light field diameter at 39.5 in (1M) distance	7 in (18cm)
Working distance	27.5 - 51 in (70-130cm)
Depth of working area with homogenous light field	23.75 in (60cm)
Depth of light exit	13.75 in (35cm)
Color temperature	4,300 Kelvin
Color rendering index Ra	93
Max. temperature increase in operation field	13 Degree C
Temperature increase at surgeon's head	2 Degree C
Luminous efficiency	250lm/W
Total irradiance	320 W/m2
Power consumption	Max 150W
Dimension of lighthead	19.5 x 14.5 z 8in (500x370x200mm)
Weight of lighthead	12lb (5.5kg
Electrical Data	**Blue 80/80 Power Supply**
Weight of Box	61.5 lbs. (135.3 kg)
Input Voltage	110-120VAC, 60 Hz, 1 phase
Input Current Per Transformer	4.35 - 6.16 amps
Output Voltage	Multiple taps, 19.5 volts to 27.5 volts with 120 VAC input.
Output Current Per Transformer	5.5 amps at 21.4VAC
Suspension System	**Blue 80/80 Suspension**
Main Arm lengths	39" (1000mm) upper arm, (33") 850mm lower arm
Weight of main arm system	**40 lbs.**
Spring Arms	25.4" (619.8mm)
Weight of spring arms	9 lbs. (4.1kg).
Ceiling plate dimensions	15.54" OD
Ceiling plate weights	32 lbs. (70.4kg)
Environmental storage To meet the environmental conditions for storage and transportation specified in MIL-STD-810, environmental test methods and engineering guidelines, the Blue 80/80 Power supply, and Lamp heads must be packaged in the Getinge supplied shipping case, Pt# Blu8080case, Hardigg Pt # dsi-80205-1100.	

NOTE: Power supply model HAN40489 is only to be used in ISO shelter with Dual 80/80 systems, Part Number

Table 2: Blue 80/80 System Technical Data

Section 2: Removal of existing Castle 2420 Light System from ISO Shelter

This section covers the removal of the existing Castle 2420 light systems from the ISO Shelter.

2.1 Disconnect power at main breaker panel

2.1.1 Turn off all power to the lights by turning off the appropriate breaker switches. The breaker numbers to the lights are listed on the door, inside the breaker panel. See Figure 1.

Figure 1: Power Breaker

2.2 Remove junction box, conduit and wiring

Remove the junction box cover to access the wires and junction box mounting screws. Depending on the method used to secure the wires, either twist the wire nuts off, or if compression wire nuts were used, cut the wires from the wire nuts. After separating the wires, remove the screws holding the junction box to the ceiling. Next, remove the screws securing the junction box and conduit from the ceiling channel. Pull the wires through the conduit, but do not remove them from the ceiling channel at this time. See Figure 2.

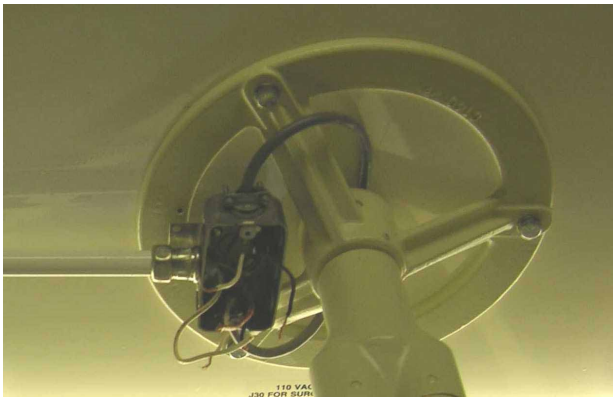


Figure 2: Junction Box

2.3 Remove existing light system

DANGER

Remove the light heads from the ceiling straps and lower the light heads as far as possible before removing the light system from the ceiling. While one person holds the light system, a second person shall remove the three bolts securing the lights to the ceiling. Safely lower the light system to the ground. This is a two-person procedure, and extreme caution should be used to avoid having the light system drop or fall on someone. See Figure 3.

Figure 3: Existing Light System

2.4 Remove wires from light system

Remove the strain relief on the far end of the ceiling wire channel located along the middle of the ISO Shelter ceiling. Pull the cable out approximately 6 inches and cut the Green, White and Black wires above the black cable insulation. It may be necessary to reach into the end of the wire channel, and pull the wires out from the end of the wire channel in order to get them to move freely. At this point do NOT remove the Green ground wire, as it will be used as a pull wire to run the new wiring through the channel.
Remove the White and Black power wires by pulling one at a time through the opening in the middle of the channel, or by pulling them out the open end of the channel. It may be necessary to use needle nose pliers to remove the wires through the strain relief in the middle of the channel, to get the wire connector through the strain relief, if this option is used. See Figure 4.

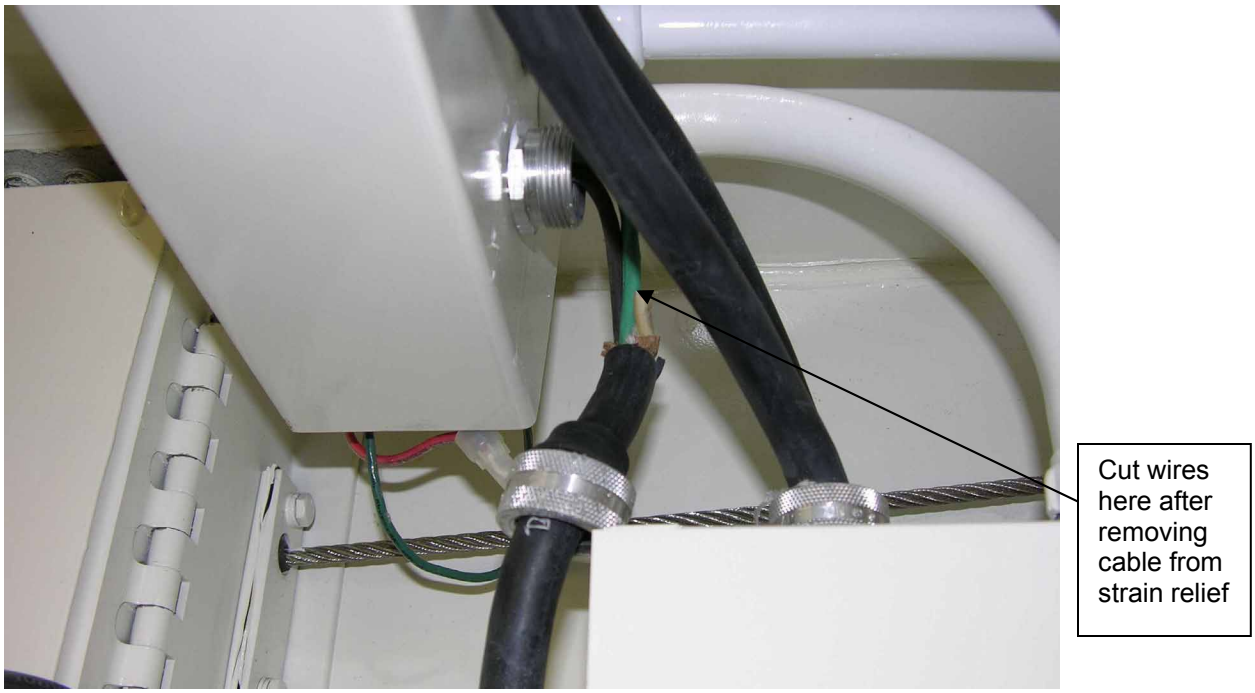


Figure 4: Removing Wires from Light System

2.5 Remove transportation ceiling pads

Remove the two transportation-ceiling pads with straps that secure the light heads to the ceiling. Replace the bolt and washer back into the ceiling after removing the straps, as they will be used later to secure the new arm system transportation straps.
See Figure 5.

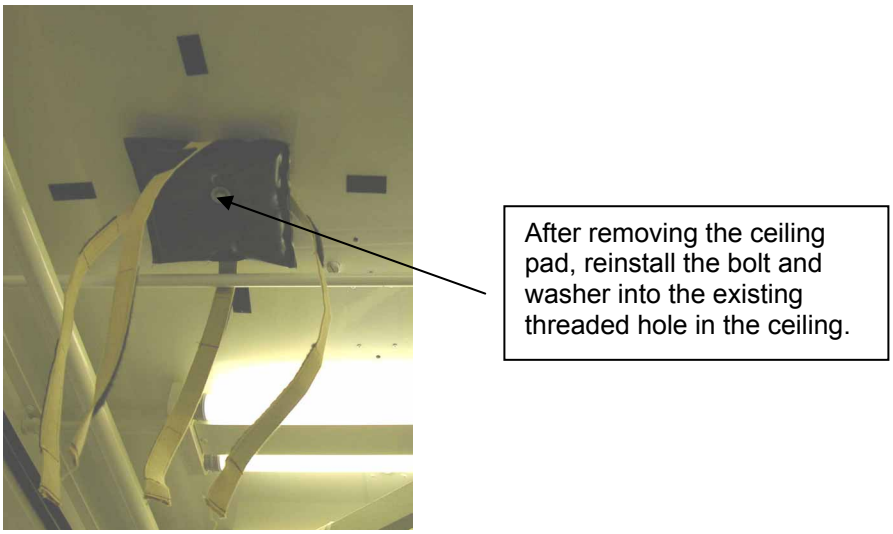


Figure 5: Removing Transportation Ceiling Pads

2.6 Remove dimmer switch

Unscrew the front cover on the dimmer switch, and cut the three power wires to the cable on the right hand side. Disconnect the strain relief from the main power feed cable, and pull the cable out of the box. The strain relief will not be used, and can be discarded. The existing cable will be used on the new light system. After removing the cable, unscrew the backing plate from the wall. Remove the strain relief at the ceiling wire channel, and pull the cable and wires out. The strain relief at the ceiling wire channel will be used later in Step 3.8. See Figure 6.

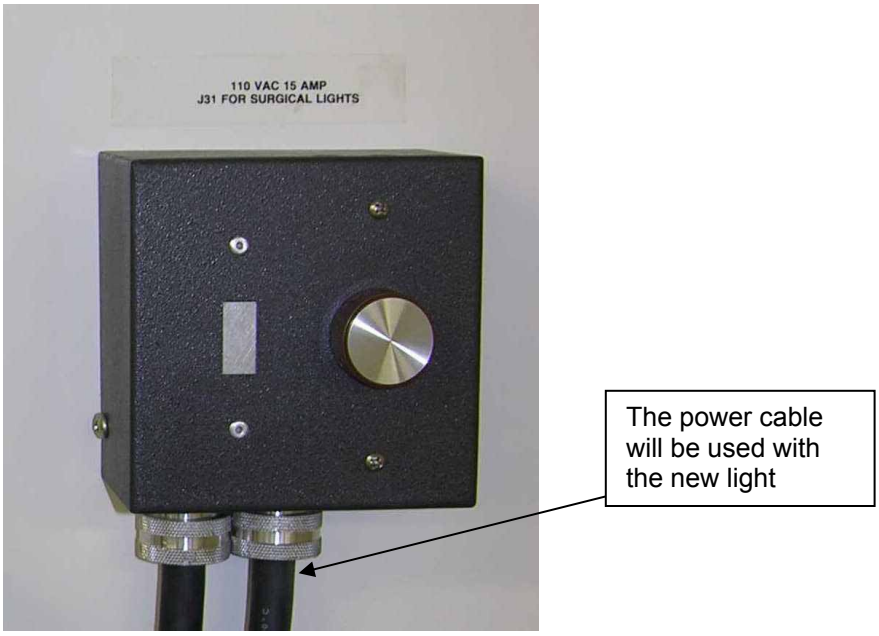


Figure 6: Remove Dimmer Switch

Section 3: Installation of Light Suspension, Wiring and Brackets

This section covers the installation of the Blue 80/80 light system transport system, the main suspension, wiring, and power supply brackets into the ISO Shelter. This step is performed once during initial installation of a system.

NOTE Before starting the installation, make sure the ISO Shelter is completely level, using the leveling devices associated with the shelter. If the ISO shelter is not level prior to installation, the light systems will not hang properly.

3.1 Installation of Ceiling Mounted Transportation Plates and Straps

Unscrew the bolts and washers from the ceiling that were used to secure the ceiling pads in step 2.3. There are two different length straps, 24" and 40". Mount the 24" closest to the main cable channel, and the 40" on the other side. If they are mounted with the 40" nearest the main cable channel, it will have no effect on the operation of the tie down system. Take the bolt and washer, and slide it through the bottom of the ceiling plate, which is the side without the groove in it. There is a small hole in the Velcro, approximately 6" from the buckle. Slide the Velcro strap onto the bolt, with the "fuzzy" loop side facing up, or away from the ceiling plate surface. The strap will sit in the groove machined into the ceiling plate, and the "fuzzy" loop will make contact with the ceiling. Secure the ceiling plate to the top of the shelter and tighten, with the strap running parallel to the ISO shelter (door to door). There are (2) plates per light system, (4) total. See Figure 7.

Figure 7: Installation of Velcro Straps

3.2. Power Supply Bracket

3.2.1 Taking a tape measures and a piece of tape, measure down from the ceiling 22 inches, and from the end of the side wall 11 inches, and place the tape in this area. Go back and mark and exact centerline location of 22 inches down and 11 inches across onto the tape. This measurement will be either the top right or top left-hand hole for the drilling template, depending on which light system is being installed. (right hand shown). See Figure 8.

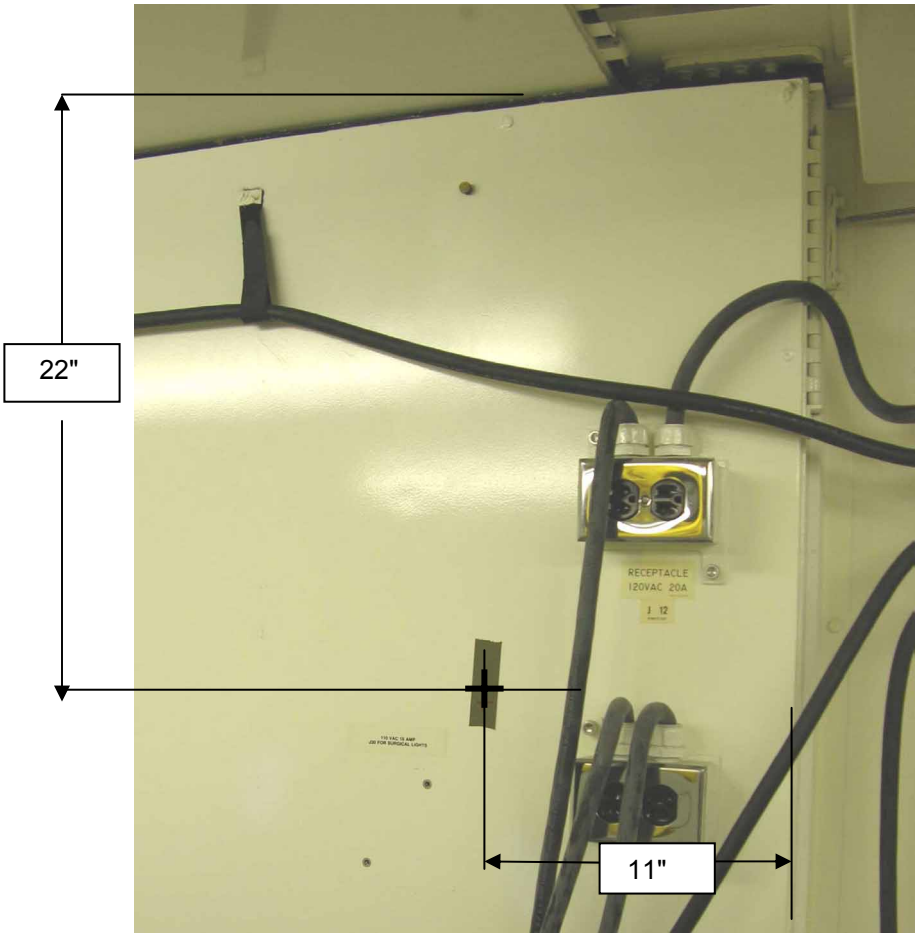


Figure 8: Power Supply Bracket Installation

3.2.2 Take the drill template and line up with the marked centerline on the top right or left hand hole, (depending on which of the two light systems is being installed). Using tape and a level, line up the template parallel to the floor, and tape the template to the wall. After the template is installed, mark the four holes onto the wall, and remove the template. Drill (4) small pilot holes approximately 1/8" to 1/4" in diameter, then finish using a 5/8" drill bit. See Figure 9.

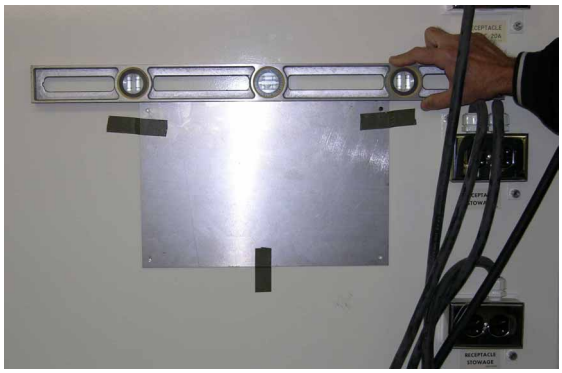


Figure 9: Drilling Template

3.2.3 Take (2) .250-20 x 1 1/2" long threaded bolts, and insert through the Power Supply Mounting Brackets, and screw on the spring nuts. See Figure 10.

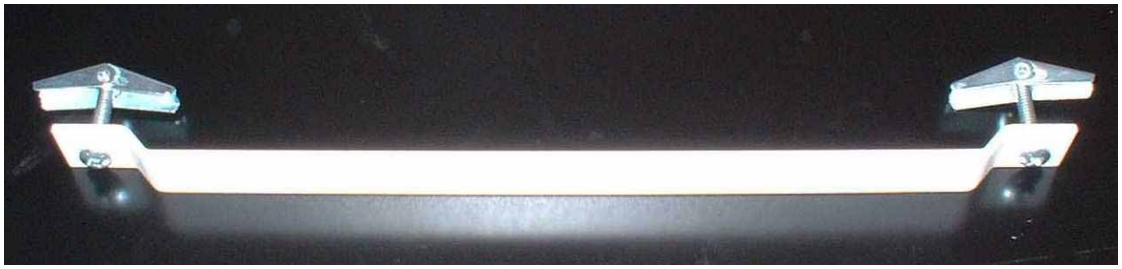


Figure 10: Power Supply Mounting Bracket

3.2.4 It is necessary to leave a very minimum amount of threads securing the spring nut to the bolt. Push the spring nuts into the holes, and push the bolt and bracket securely against the wall to enable the spring clip to open. It may be necessary to tighten and loosen the bolts a few times in order to get the spring clips to engage correctly. If a spring clip comes loose from the bolt, the spring clip can be removed from the wall with a pair of needle nose pliers or a similar tool. See Figure 11.

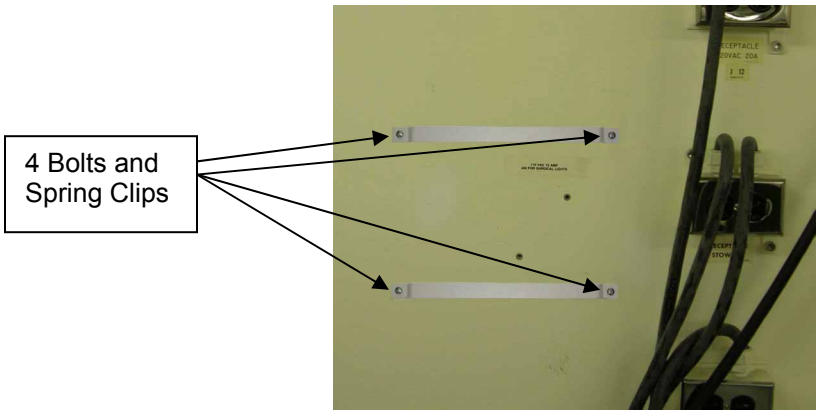


Figure 11: Bolt/Bracket Positioning

3.3 Ceiling Plate and Flange

Mount the ceiling plate to the ceiling of the ISO shelter using the mounting hardware provided. The ceiling plate must be aligned so the conduit-mounting bracket is facing the wiring channel. It will line up directly to the threaded hole in the wiring channel from where the previous conduit was removed in step 2.2. This is a two-person installation. See Figure 12.

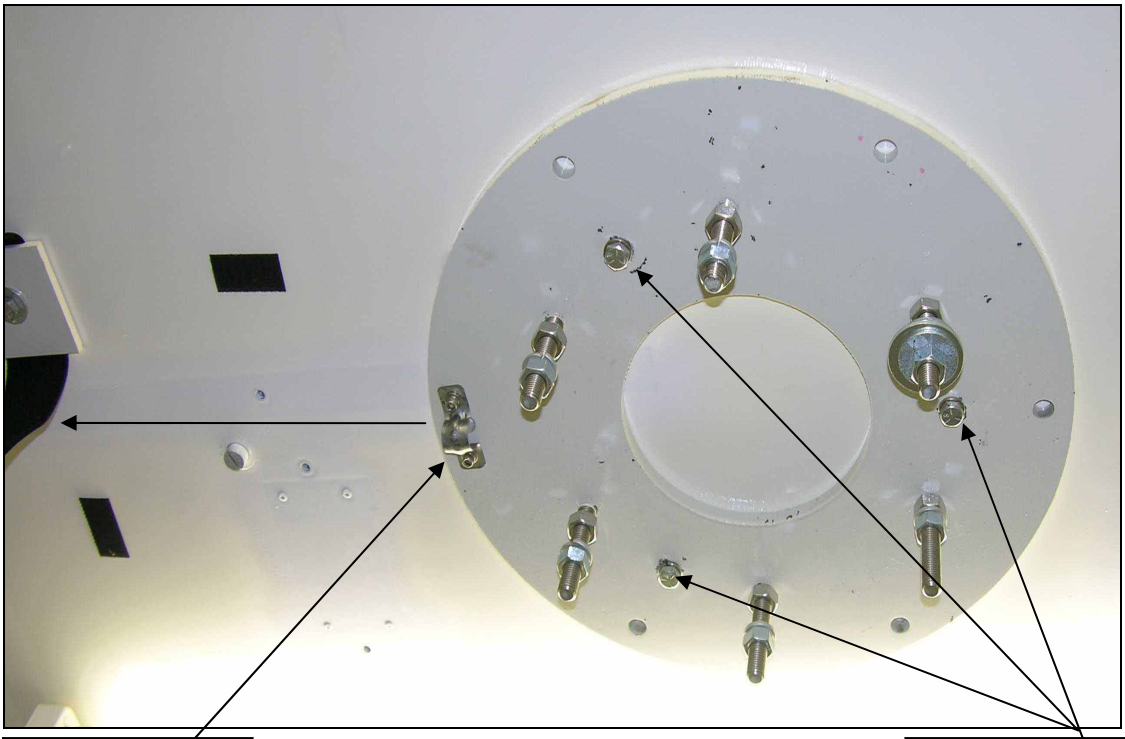


Figure 12: Ceiling Flange and Plate

Ceiling plate is heavy, and caution should be taken when installing. Two people should install this plate, one securing it in position, while the other installs the hardware.

3.4 Ceiling Flange to Main Arm Installation

Slide cable from Main Arm through the throat of the Ceiling Flange. Align the (4) holes, (2) above and (2) below the circular plate of the ceiling flange, and slide over main arm tube. Secure to the Main Arm tube with the (4) countersunk screws provided.
See Figure 13.

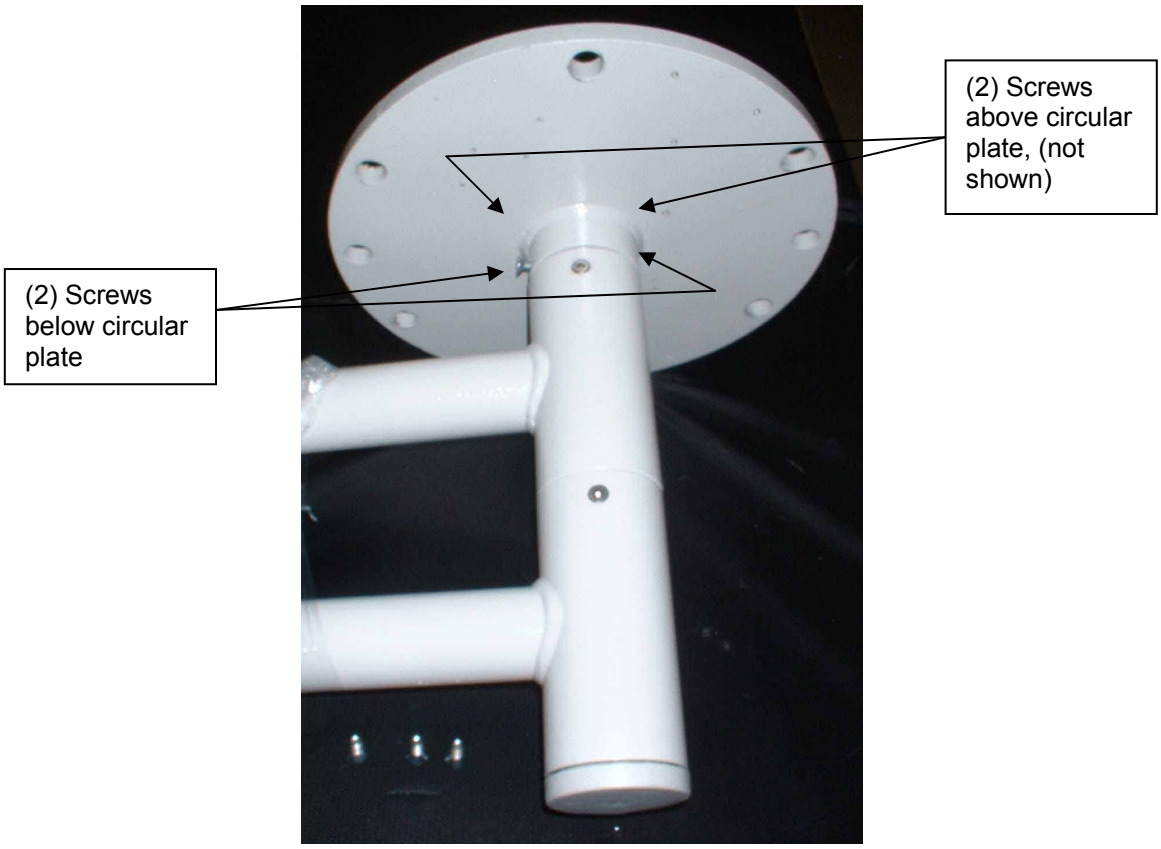


Figure 13: Ceiling Flange and Plate

3.5 Main Arm Installation

Before installing the Main Arm, The majority of the hardware on the ceiling plate must be removed. All that should remain on the (6) studs of the ceiling plate, is (1) hex nut per stud, (6) total. Screw these (6) nuts all the way flush to the plate. To aid in the installation of the Main Arm, place (1) flat washer on each stud, and tape it to the ceiling plate. This will allow easier installation of the Main Arm to the ceiling plate. The Main arm installation is a two person operation, and the Main Arm must be aligned correctly before attaching any further mounting hardware. There is a small notch machined out of the top of the Main Arm tube that must run parallel to the conduit-mounting bracket. This notch is for the cable to sit in when the Main Arm is tightened to the ceiling plate. Once the Main Arm is aligned with the notch, secure the Main arm to the (6) studs using a flat washer, a lock washer and a hex nut on each stud. Slowly tighten the lower nuts, but do not tighten them completely. Make sure the cable is still sitting in the notched cutout while tightening the nuts. Once the upper tube of the Ceiling Flange is almost touching the Ceiling Plate, take the small bubble level supplied with the installation kit, and adjust the lower nuts until the Ceiling flange is sitting level on the studs. At this time, tighten the upper nuts down onto the Ceiling Flange, checking afterwards to make sure the Flange is still level. See Figure 14.

NOTE: If Spring Arms are to be installed on Main Arm before mounting Main Arm to ceiling flange, follow Steps 3.10.1 and 3.10.2 first, then install unit as shown above.

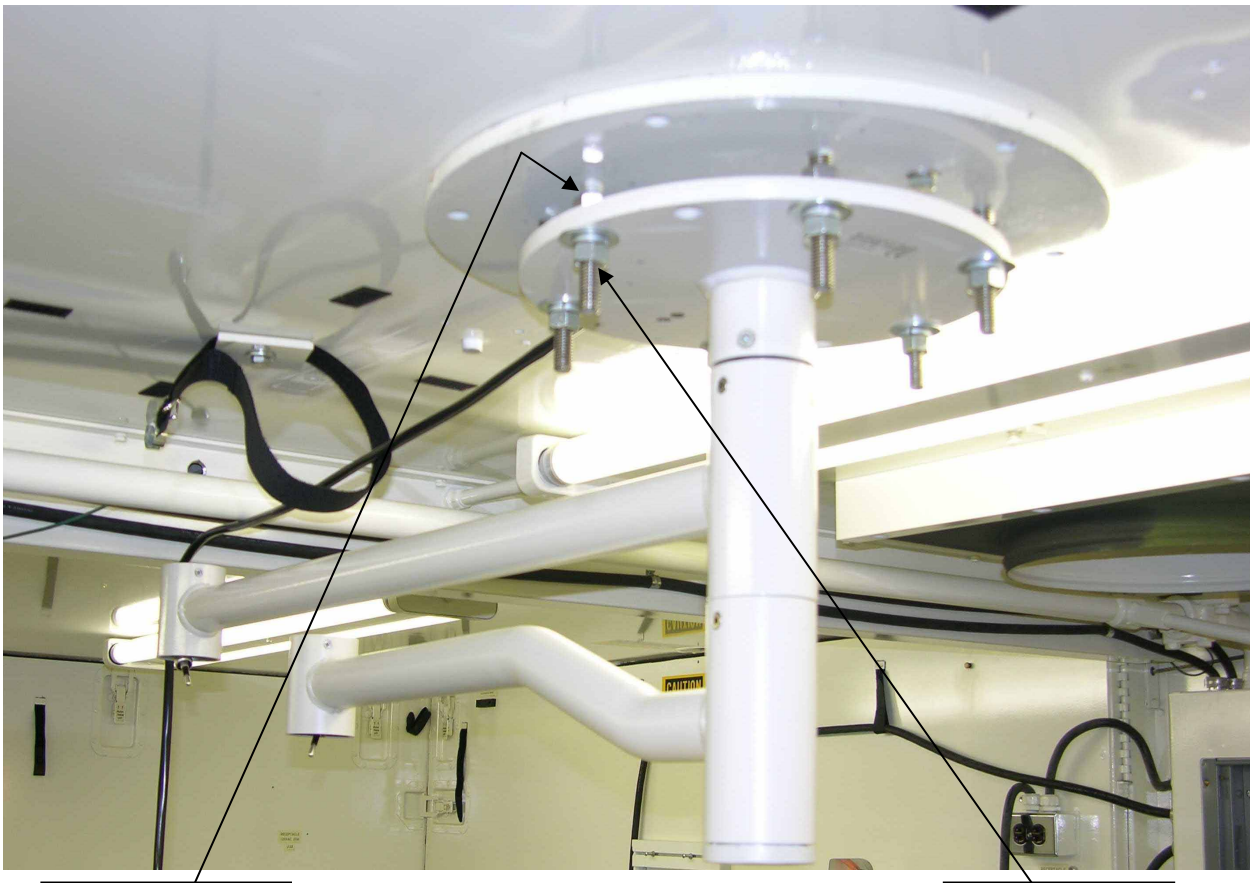


Figure 14: Main Arm Installation

3.6 Main Arm Wiring and Conduit Installation

Take the small black grommet from the ceiling cover, and slide it over the conduit. Next, take the power cable from the Main Arm and slide it through the cut end of the conduit, exiting the end with the compression fitting. Take the end of the cable and tape it to the existing green lead wire exiting the middle of the ceiling wiring channel from the old light system. Slowly pull the green wire through the wiring channel at the far end of the channel. After the wire has successfully been pulled through the end of the wiring channel, screw the conduit into the existing threaded hole in the wiring channel and tighten. Next, secure the opposite end of the conduit under the conduit-mounting flange located on the Ceiling Plate and tighten. See Figure 15.

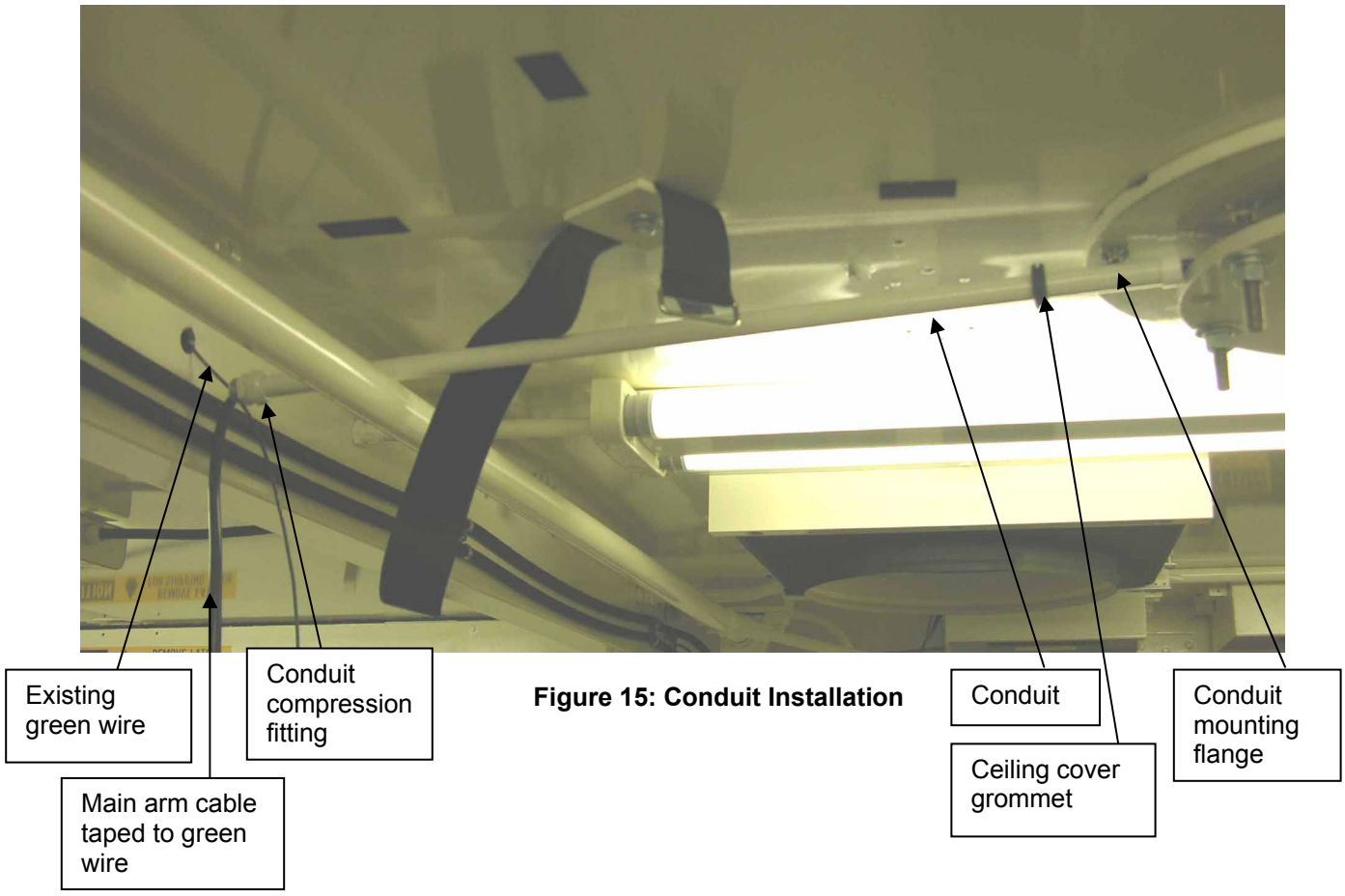


Figure 15: Conduit Installation

3.7 Ceiling Cover Installation

3.7.1 Around the main axle, you must now mount the retaining brackets. This is done by clamping the two brackets around the axle, screw side out. Tighten Screws. See Figure 16.

Figure 16: Retaining Ring Assembly

3.7.2 Place the clamps onto the hood assembly as shown in Figure 17.

Figure 17: Retaining Clamps, Hood Assembly

3.7.3 Place both hood pieces around the main shaft, inserting the bottom of hood into the groove from the small retaining ring. Ensure that rubber grommet around conduit fits snugly inside of hood. Screw hood assembly to plate assembly. See Figure 18.

Figure 18: Assembled Hood Assembly

3.8 Low Voltage AC Wire Run from Power Supply to Light Connection

3.8.1 Place the existing strain relief black rubber grommet (from Step 2.6) and nut over the 6 wire, 5 foot long, "AC out" cable end, leaving approximately 12" to 16" of cable. Place the cable through the side of the wiring channel and pull the wires through the open end of the channel. Take the 6-wire cable from the light system, and match the 6 wires from the AC out cable, and secure together using the wire twist nuts provided. After securing the wires together with the wire nuts, take the black electrical tape supplied and wrap the wire nuts and wires securely together. See Figure 19.

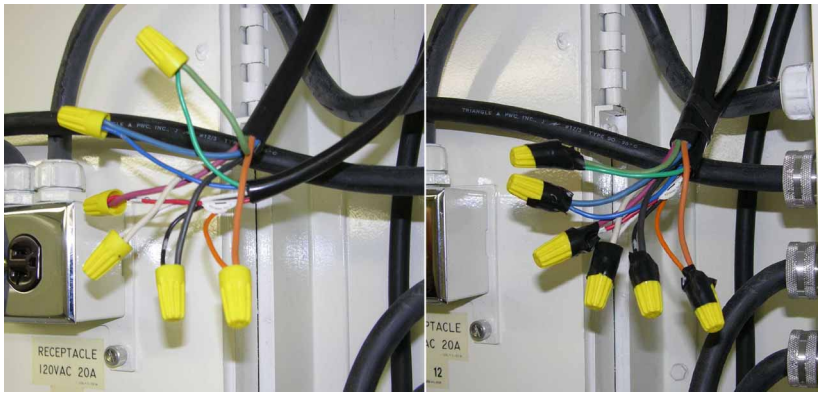


Figure 19: Low Voltage AC Connections

3.8.2 Push the taped wire/cable bundle into the open end of the wiring channel, slowly pulling the "AC out" cable through the strain relief in the wire channel. After successfully placing the taped ends of the cables back into the open end of the wiring channel, secure the "AC out cable to the wiring channel with the strain relief grommet and nut. See Figure 20.

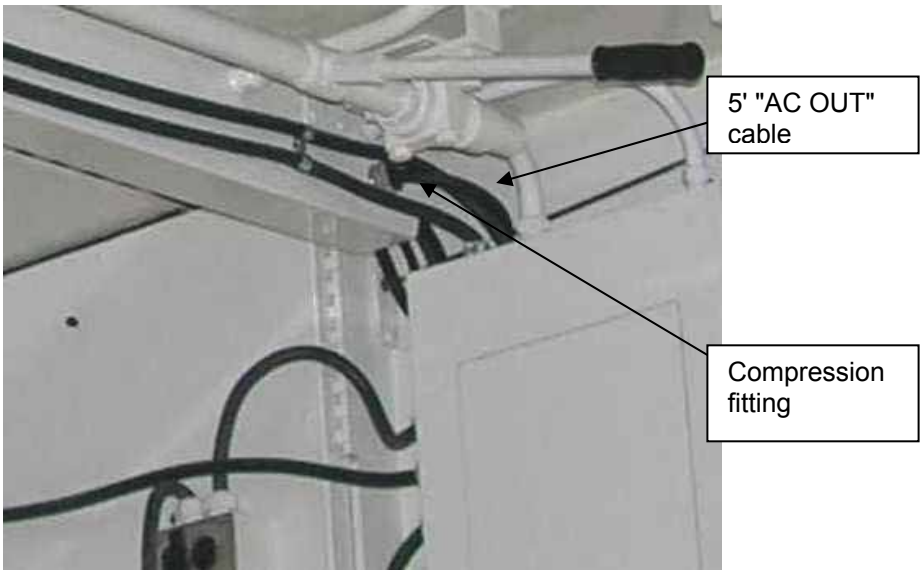


Figure 20: AC OUT Cable Route

3.9 High Voltage AC Wire from Power Source to Power Supply

Take the female 20-amp connector and remove the rubber back, which will expose the two cable clamping screws. Slide the rubber backing over the existing power cable that was cut from the dimmer switch box. Slide the connector body over the cable. Splice the (3) wires from the cable approximately 1 1/2" to 2 1/2" long, and strip the ends of the wires approximately 1/4" to 1/2" long. Secure the Green wire to the position marked "W", The Black wire to the position marked "X" and the White wire to the position marked "Y". After securing the wires to the connector, push the cable into it's housing, and secure the two-connector pieces together with the (3) screws on the top of the connector. Next, pull the cable tight and secure the cable to the connector by tightening the two sides screws. Slide the rubber back piece onto the back of the connector, until it snaps into place. See Figure 21.

Figure 21: High Voltage AC Wire/Plug

3.10 Spring Arm to Main Arm Installation

3.10.1 Unscrew the (2) screws securing the cover to the top of the Main Arm, and pull the connector out of the Main Arm before proceeding. The Spring Arm must first be locked into a downward position before installing. Slide the Spring Arm into the Main Arm and align and insert the retaining pin provided with the arm, into the retaining pin hole as shown, while holding the spring arm in the down position. This is a two-person installation. One person should hold the Spring Arm firmly in place, while the other inserts the pin, to avoid any injury.

Use caution when installing the Spring Arm. It is under extreme spring tension, and can cause serious injury if it slips out of your hand and springs upward. Avoid leaning your head over the Spring Arm during installation, and have someone help hold the Spring Arm in position while inserting the retaining pin. See Figure 22.

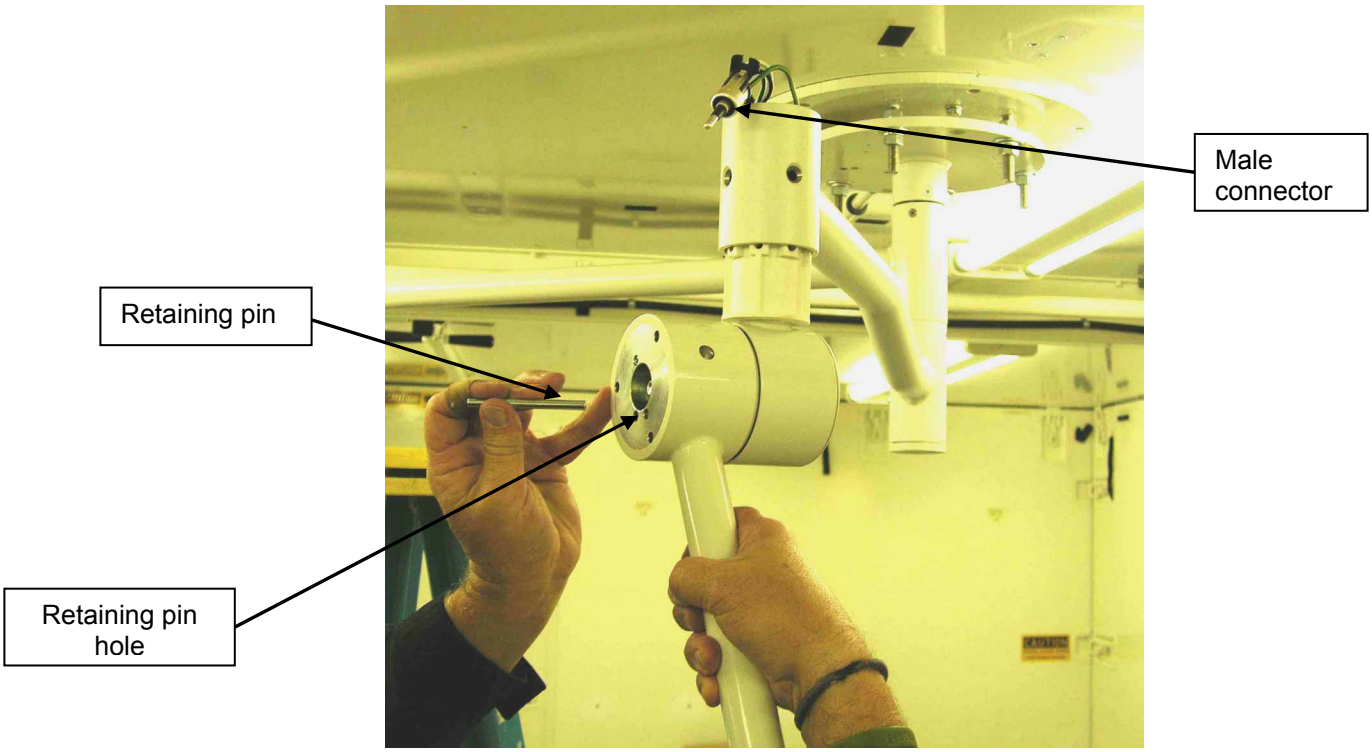


Figure 22: Spring Arm to Main Arm Install

3.10.2 Insert the Spring Arm into the Main Arm and install the two screws provided with the arm, and gently tighten in place. Push the Male connector at the top of the Main Arm into the Female connector of the Spring Arm and reinstall the (2) screws securing the cover and connector into place in the Main Arm. Do not remove retaining pin in Spring Arm at this point. It will be removed after the light head has been installed. See Figure 23.

Figure 23: Inserting Male Light Plug

Section 4.0: Installation of Lampheads and Power Supply:

This section covers the repeated installation of the lampheads and power supply into the ISO shelter.

NOTE ▶ **Section 4.0 of this manual will be repeated every time the ISO shelter is assembled.**

4.1 Removing Components from shipping case.

4.1.1 Verify correct shipping container by referring to label on side of container. See Figure 24

Figure 24: BLUEMMSA Container Label

4.1.2 Unfasten the 16 quick twist connect fasteners from around the shipping container.

4.1.3 Open container and verify that the following items shown in Figure 25 are present.

- (1) HAN40489 Maquet Power Supply(s)
- (2) 5607-7852 Blue 80 Lampheads
- (2) 5605-3026 Spare Light Bulbs
- (3) 5606-0756 Sterile Handles
- (1) HAN40580 Bubble Level
- (1) HAN40527 Manual, Blue 8080 Field Light Rev A

Figure 25: Blue 80 Light Container Inventory

4.1.4 All parts shall be stored as shown in Figure 25 above, when system is packed for shipment.

4.2 Lamphead Installation

Use care when pulling the connector out using needle nose pliers. This can damage the connector if squeezed too much via the pliers, or deformed by using too much force. If any resistance is encountered when pulling the connector out, stop pulling and check for obstructions.

4.2.1 If the mating connector is located inside the tube of the Spring Arm end, carefully pull it out using a pair of needle nose pliers. If the connector is outside the arm, bypass this step. See Figure 26.

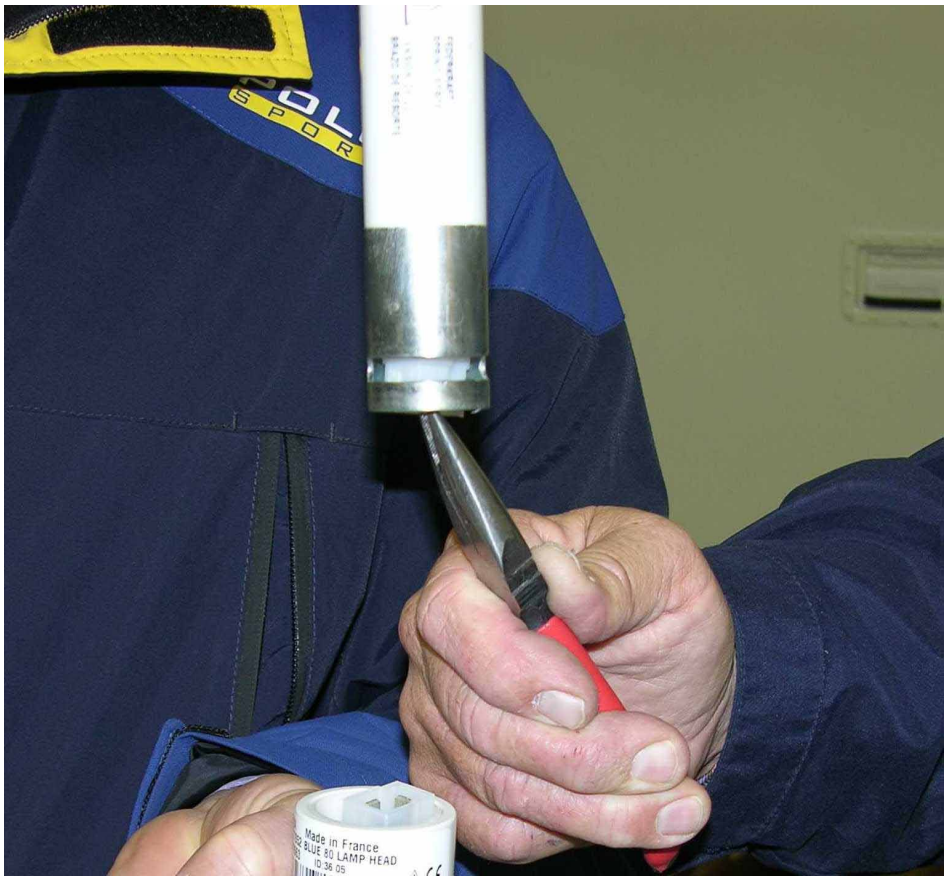


Figure 26: Lamphead Installation

4.2.2 Remove the Blue 80 Lamphead from its protective shipping container. Connect the mating connectors from the Spring Arm and Blue 80 Lamphead together. Make sure the connectors are securely fastened before proceeding.
See Figure 27.

Figure 27: Spring Arm Connection

4.2.3 Slide the Blue 80 Lamphead into the Spring Arm, aligning the mounting hole. Secure the Lamphead onto the spring arm using the socket head cap screw provided and tighten. See Figure 28.

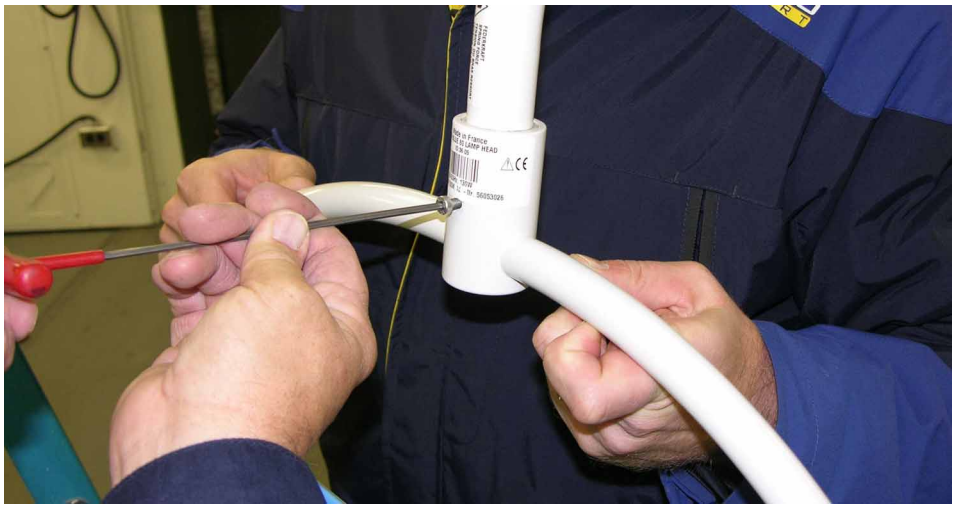


Figure 28: Securing Lamphead

4.2.4 Remove the retaining pin from the side of the Spring Arm and snap the protective cover onto the end of the spring arm. Place the retaining pin in the lamphead transportation box for future use. See Figure 29.

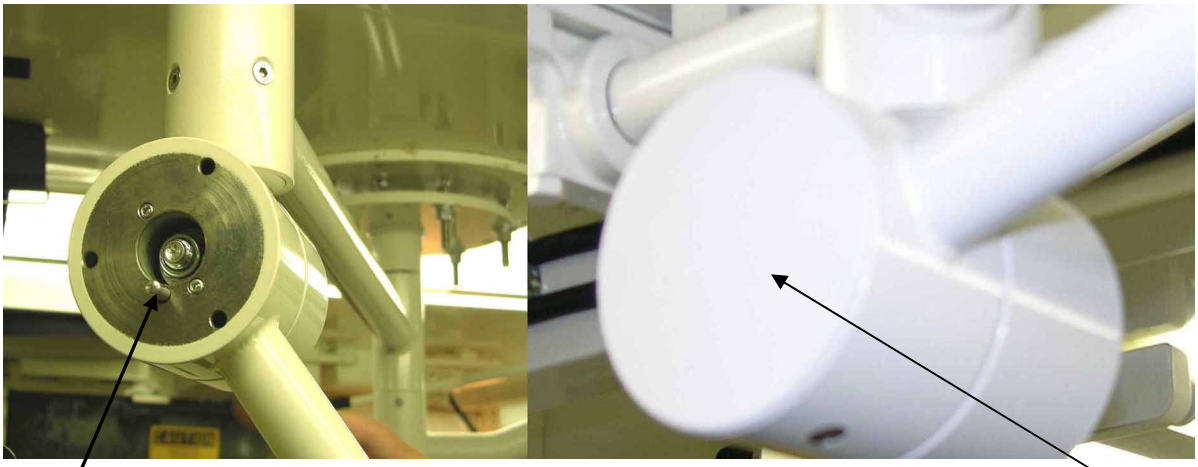


Figure 29: Retaining Ring/Protective Cover

4.3 Power Supply Installation and Connection

Remove the Power Supply from its shipping container. Lift the Power supply onto the wall brackets next to the breaker panel. Connect the AC power to the "AC IN" connector located on the bottom right hand side of the Power supply. Connect the Lamphead power supply cable to the "AC OUT" connector located on the bottom middle section of the power supply. Both connections are labeled accordingly on the front of the Power Supply enclosure. See Figure 30.

The Power Supply is **extremely heavy**, and care should be taken to avoid dropping it. It is highly recommended to have two persons lift the Power Supply into place.

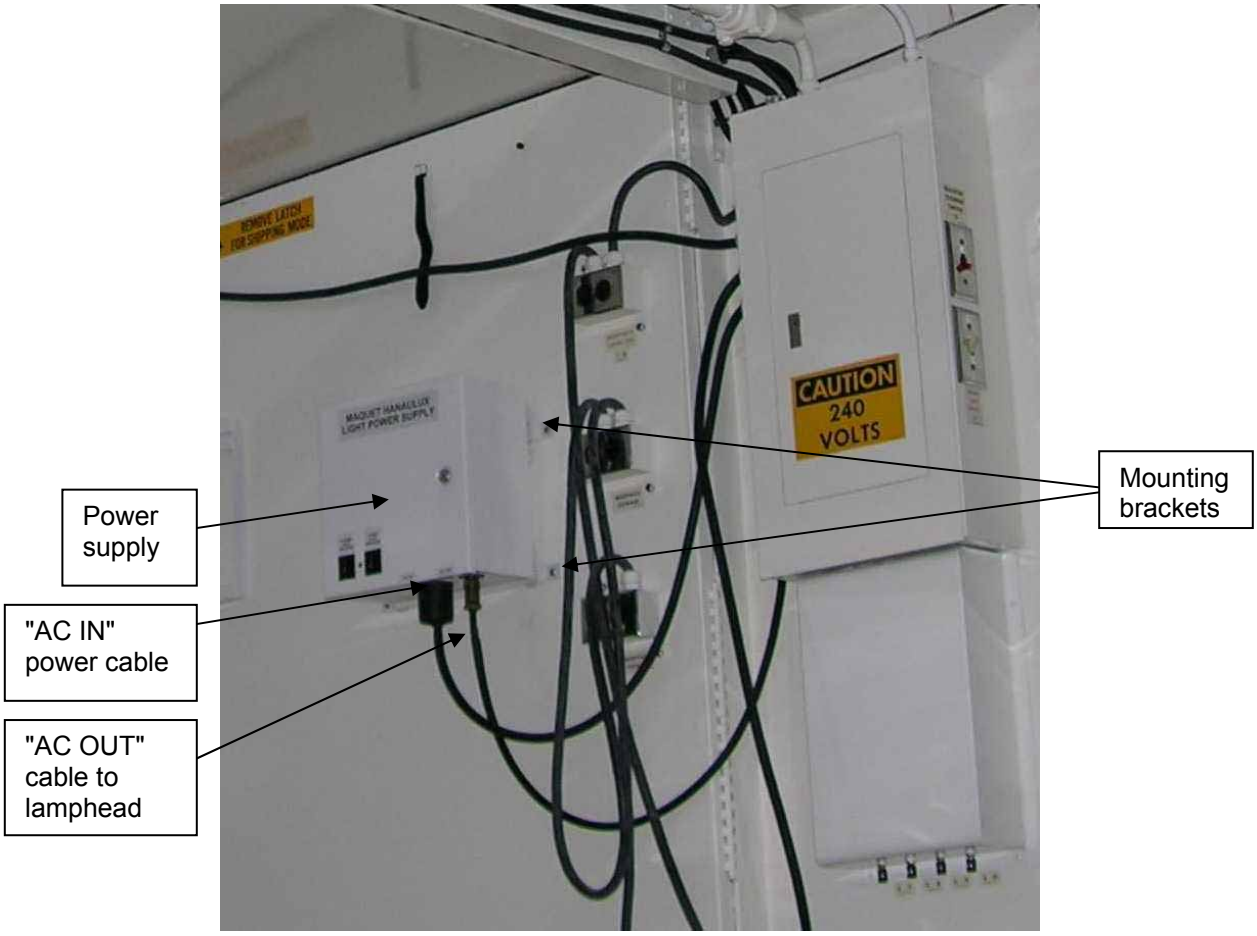


Figure 30: Military Power Supply

4.4 Setting Power Supply Taps

The taps to select are dependent upon the incoming voltage at the primary winding. Both the primary and secondary taps may need to be changed to obtain the optimal voltage across the bulb at the lamphead. See Figure 31 for Tap locations.

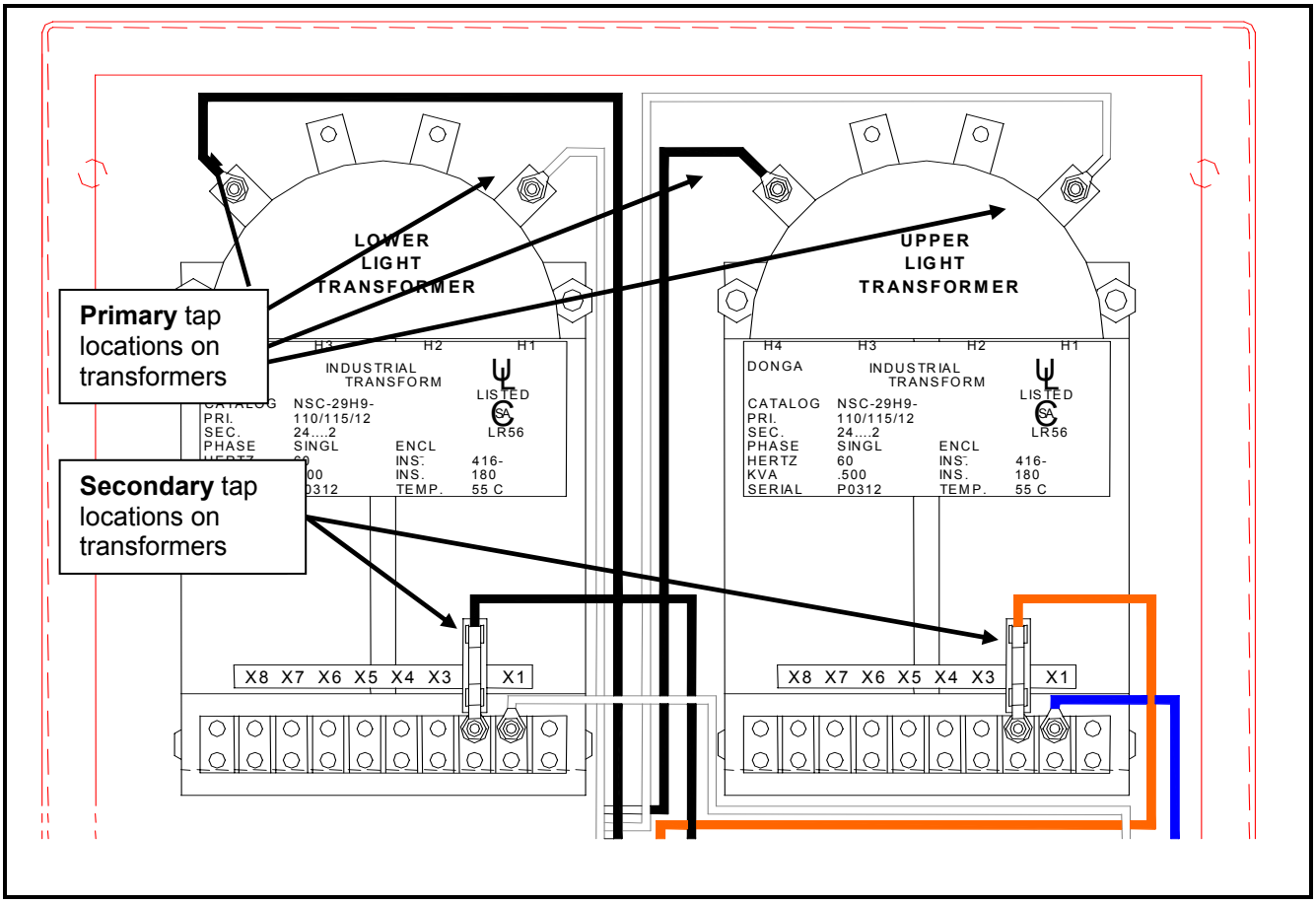


Figure 31: Primary/Secondary Taps

4.5 Initial Setting of Power Supply Voltages

4.5.1. Table 2 provides recommended secondary tap positions based upon using input taps H1-H4. The secondary voltages are set to achieve the approximate 21.4vac across the lampheads bulb.

Primary Voltage	Primary AC Input Tap	Recommended Output Tap	Approximate Voltage at Light
110vac	H1 and H4	X1 and X8	21.32vac
111vac	H1 and H4	X1 and X8	21.50vac
112vac	H1 and H4	X1 and X7	21.31vac
113vac	H1 and H4	X1 and X7	21.55vac
114vac	H1 and H4	X1 and X6	21.38vac
115vac	H1 and H4	X1 and X6	21.55vac
116vac	H1 and H4	X1 and X5	21.28vac
117vac	H1 and H4	X1 and X5	21.50vac
118vac	H1 and H4	X1 and X4	21.35vac
119vac	H1 and H4	X1 and X4	21.48vac
120vac	H1 and H4	X1 and X3	21.20vac
121vac	H1 and H4	X1 and X3	21.40vac
122vac	H1 and H4	X1 and X3	21.58vac
123vac	H1 and H4	X1 and X2	21.31vac
124vac	H1 and H4	X1 and X2	21.46vac
125vac	H1 and H4	X1 and X2	21.66vac

Table 3: Transformer Tap Voltages

4.5.2. To measure the voltage across the bulb, you must use a standard multimeter set at VAC. Access the light panel on rear of Blue 80 light head. See Figure 32

Figure 32: Blue 80 Bulb Access Panel

Precaution will be taken while measuring voltage in rear of light panel. Possibility of shock and/or burns could occur while performing this procedure.

4.5.3 Insert multimeter leads as shown into rear of bulb that is designated by the letter **"R"**. This is the main bulb; the other bulb is backup and only illuminates when the main bulb is burnt out. See Figure 33

Figure 33: Blue 80 Voltage Measurement

4.5.4 Adjust the secondary taps shown in Chapter 5.3, Figure 28, to achieve 21.5 VAC, + - ½ volt across the bulb.

4.5.5 After properly checking and setting the voltage at both lampheads and transformers, the system can be placed into operation.

Section 5: Securing Blue 80 Main Arms

5.1 Removal of Blue 80 lampheads and Maquet power supply

5.1.1 Secure all power to Blue 80 Lamp System by disconnecting main power from the Maquet power supply.

5.1.2 Remove the lampheads from main arm. **NOTE: Ensure the stop pin is in main arm as described in step 3.10.1.**

5.1.3 Place lamphead(s) within shipping container as shown in Figure 25.

5.1.4 Remove all cabling (2) from Maquet power supply. Remove power supply from wall mount and store in shipping container as shown in Figure 25.

5.2 Securing main arm and spring arms

5.2.1 Place Velcro Strap P/N HAN40475 on main arm as shown in Figure 34.

Figure 34: Velcro Strap, P/N HAN40475

5.2.2 Rotate spring arm towards main axle and place both Velcro straps around arm as shown in Figure 35.

Figure 35: Spring Arm strapping position

5.2.3 The final strap will be placed around the main arm as shown in shown in Figure 36.

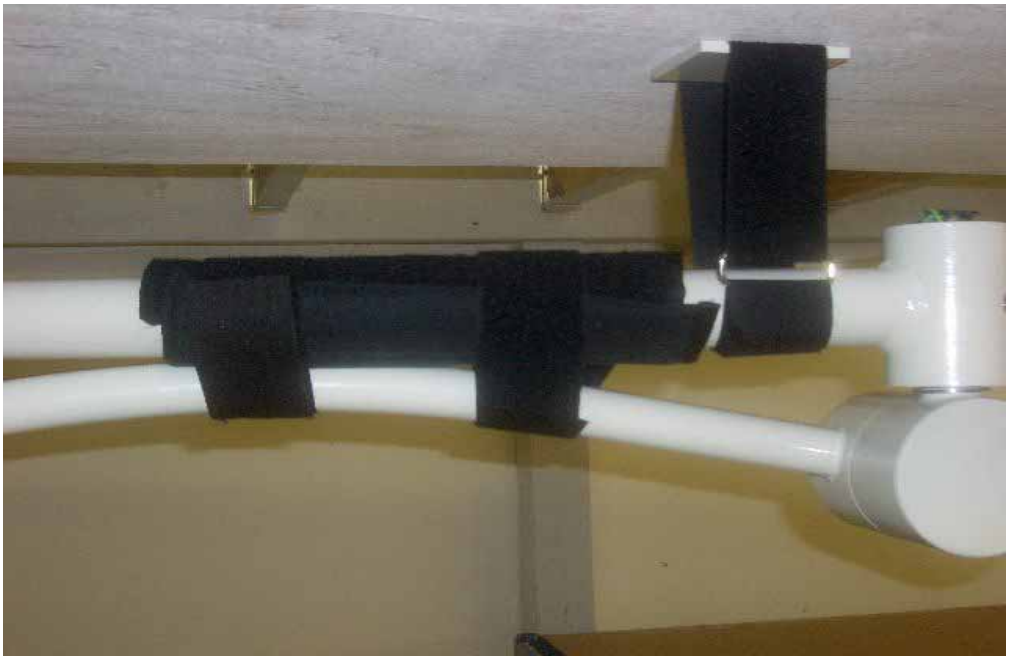


Figure 36: Ceiling Mounted Velcro Strap, P/N HAN40468

5.2.4 Repeat procedure for the second main arm unit. When complete, system is ready for shipment.

Section 6.0: Operation of the Blue 80/80 Light System:

6.1 Setting up Light source

6.1.1 The Blue 80 Light head is designed to operate in the ranges of 27.5 – 51 inches. This will allow the light to apply the 80,000-lux over the operation field in an even field of light. To view the light wave pattern, refer to the below picture. See Figure 37.

Figure 37: Blue 80 Lamphead

6.1.2 The dual Blue 80 light sources allows a total of 160,000 lux (80,000 lux each lamp head) to be used on the patch area from a wide variety of angles. This light arm was designed with the ergonomics of the ISO shelter in mind and is small and compact in nature. To move the light heads where needed, simply place a sterilizable Handle onto light attachment and adjust according to doctor's field of view needs. See Figure 38.

Figure 38: Lamphead Alignment

6.2 Energizing the Power Supply.

6.2.1 The power supply has two front panel mounted breaker switches, each controlling the voltage for the upper or lower light assembly. Once the power supply is attached via its main AC IN and AC out power cables, the unit is ready for operation. The breakers are individually labeled and by depressing the rocker switches, a green light will illuminate showing the transformers inside the power supply are connected to 120VAC power. See Figure 39.

Figure 39: Blue 80/80 Power Supply

Section 7.0: Preventive Maintenance of Blue 80/80 Light System

DANGER OF BURNS: The lighthead heats up during operation. Allow cooling off before starting any PMs

DANGER OF INJURY: ENSURE Spring Arms are restrained when removing light head, Arm is under great pressure and severe injuries will occur.

DANGER OF BODILY HARM: Disconnect the Power supply from the mains and make it voltage-free before starting any repair work

7.1 Preventative maintenance is recommended to keep the lights operational when required.

Maintenance Task	When Performed	Details
Power Supply Mounting Bracket Check	Prior to every installation	Check fasteners to ensure that the brackets are tight and secured to the wall.
Illumination (Lux) Verification	Every 6 months	Using a lux meter, check for proper output = 80,000 Lux measured at 39 inches from lamphead, with 7.1-inch circular pattern.
Lamphead inspection	Every 6 months	Replace according to Chapter 8.5
Spring Arm Tension Adjustment	Every 3 months or as necessary	Adjust according to Chapter 8.3

Table 4: Preventative Maintenance Recommendations

7.2 Inspection by the Operator

The Blue 80/80 light heads and supporting structure is to be inspected by the operator every six months, with particular attention to the following points:

- Defects in point work
- Cracks in plastic parts
- Deformation in the supporting system

7.3 Cleaning/Disinfection

NOTE ▶ **To avoid damage to plastic and glass parts, do not use any scouring agent, or any cleaning agent which is alkaline, acidic or contains alcohol (e.g. ethanol, propanal or aldehyde).**

- Only disinfect the apparatus when it is cold
- We recommend our tested cleaning/disinfection agent HANAU-clean
- Because there are a great number of cleaning/disinfecting agents on the market, and we do not know their interactions with plastic used, damage cannot be ruled out if other agents are used.
- For cleaning, use a soft, lint-free cloth

7.4 Sterilizing the handles

NOTE ▶ **Please immediately replace all damaged Handles showing cracks or deformations because these could fall down into the wound**.

- Push in the spherical catch of the Handle and pull Handle off downwards
- Push the Handle back on until you hear the catch click, check for proper seat.
- Place the Handles standing upright and with the open side facing down
- Do not exceed a sterilization temperature of 134 degrees Celsius
- Avoid letting the Handles come into contact with other objects while they are being sterilized.

Section 8.0: Corrective Maintenance

DANGER OF BURNS: The lighthead heats up during operation. Allow cooling off before starting any repair work

DANGER OF INJURY: ENSURE Spring Arms are retrained when removing light head, Arm is under great pressure and severe injuries will occur.

DANGER OF BODILY HARM: Disconnect the Power supply from the mains and make it voltage-free before starting any repair work

8.1 Troubleshooting procedures

Table 5 provides a quick reference for troubleshooting the Blue 80/80 system.

Failure	Possible Cause	Corrective measure
Suspension / Manouverability		
Light is stiff	Brakes on the lighthead are too tight	Adjust brakes on light head
Light is too slack	Brakes on the lighthead are too loose	Adjust brakes on light head
Lighthead sinks	Spring force in counterbalance too loose	Adjust the spring force in counterbalancer
Optical System / Technology		
Light flickers	Faulty contact	Service
Illumination too bright / dark	Incorrect supply voltage	Supply voltage to be checked by electrician Check bulb and replace if necessary
Life of bulb too short	Wrong bulb(s), Incorrect supply voltage	Check bulb and replace if necessary Supply voltage to be checked by electrician
Colour distorsion	Wrong bulb(s)	Replace bulb
Light field not round	wrong bulb(s), Bulb not positiones correctly, Main lamp defective	Check bult position
Glass Cover		
Glass cover scratched or cracked	- Use of wrong cleaning agents; - Cleaning or disinfected when still hot	Use suitable cleaning agent; Glass cover to be replaced by after-sales service
Sterilisation		
Life of sterilisable handles too short	Sterilisation process	Check sterilisation process
Handles cracked	- Sterilisation process - End of useful life	Check sterilisation process Replace handle

Table 5: Mechanical/Optical Troubleshooting

8.2 Lighthead removal procedures

8.2.1 Remove lid (1) from the movable side of the weight balancer (2). See Figure 40.

8.2.2 Swing the weight balancer towards the floor and insert retaining pin (3) into drill hole (4). See Figure 40.

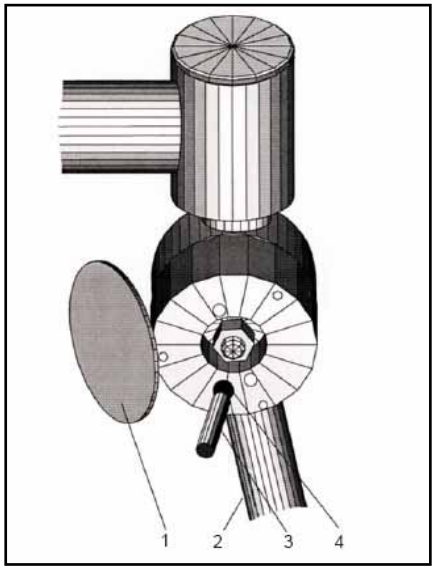


Figure 40: Weight Balancer

Failure to insert the retaining pin far enough into the drill hole may cause the weight balancer to bounce up and cause injuries. Check that the weight balancer is firmly locked into position before you let go.

8.2.3 Unscrew hexagon socket screw (1). Unscrew brake screw (2). See Figure 41.

8.2.4 Pull off Handle (3) off weight balancer and disconnect the plug connection (4). See Figure 41.

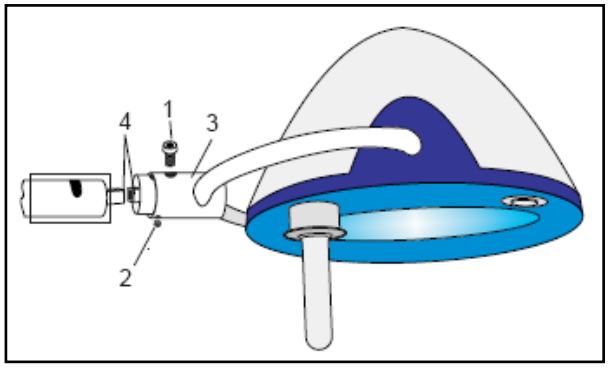


Figure 41: Blue 80 lighthead brake screw

8.3 Spring arm tension adjustment procedure

8.3.1 Remove the lid of moveable weight balancer arm (1) and also, on the Blue 80-weight balancer, the lid of fixed weight balancer arm (2). See Figure 42

8.3.2 Turn adjustment nut (3) by half a turn maximum: make sure to hold the hexagon socket screw on the other side of the Blue 80-weight balancer. See Figure 42.

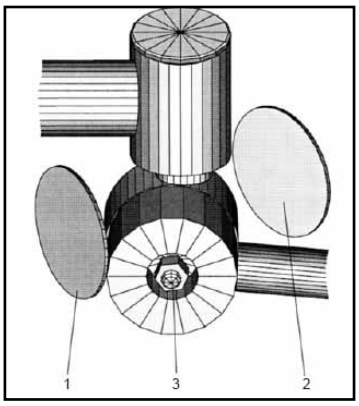


Figure 42: Spring arm brake adjustment

8.3.3. Turn clockwise if the light head sinks down or turn counter clockwise if the light head moves up.

8.3.4 Check whether the light balancer stops moving in every position. Continue adjusting until arm no longer moves from desired position.

8.3.5 Put the lid back on weight balancer.

8.4 Setting the brake pressure of the Blue 80 lighthead

CAUTION HIGH TEMPERTURE: The light heads heat up during operation. Make sure to let the light head cool off before you set the brake pressure.

8.4.1 Let the light head cool off. Set the brake pressure of the light head by tightening or loosening brake pressure adjustment screw (1) underneath light head Handle (2). See Figure 43.

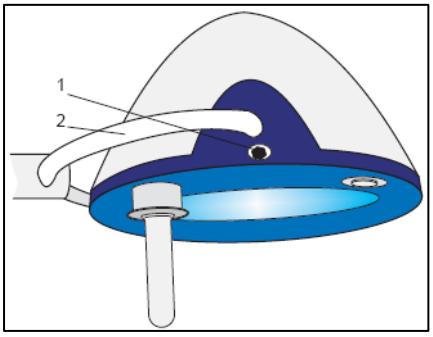


Figure 43: Blue 80 Lighthead brake adjust

8.5 Replacement of bulbs

NOTE

Please note to use replacement bulbs supplied by Getinge to reach the safe function and the technical lighting data. DO NOT touch the glass body of the halogen bulb with bare fingers. When the yellow signal lights up at the lower side of lighthead, this indicates that the reserve bulb has taken over operation. To avoid a complete failure of the lighting system, please replace the main bulb as soon as possible. The position of the main lamp is indicated by a dot on the reflector shield.

8.5.1 Slightly push in lid (1) on the hood (2) and push to one side. See Figure 44

8.5.2 Take out socket (5) towards to the top.

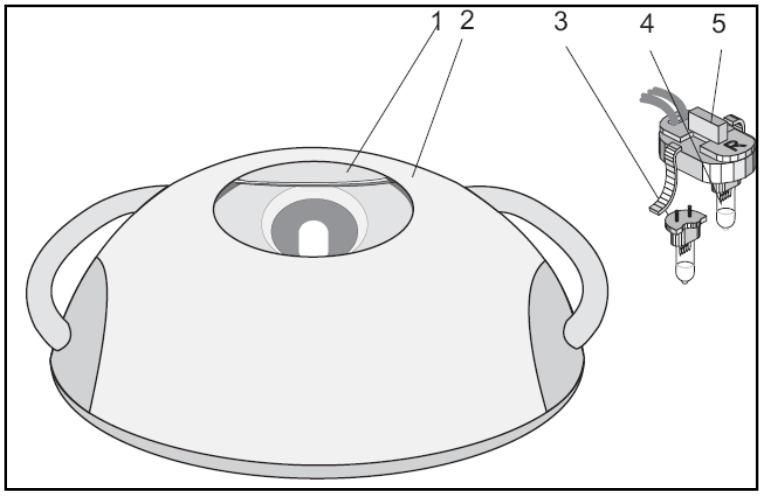


Figure 44: Light bulb replacement procedure

8.5.3 Remove broken halogen bulb (3) from the side of the connection lead.

8.5.4 Remove spare lamp (4) marked with “R” and put into the socket of the main lamp.

8.5.5 Put in new bulb into the socket of the spare lamp.

8.5.6 Put both lamps back into the reflector in a way that the marked position “R” on the reflector and the socket is opposite. Put lid back on and check the lid for safe seating.

Section 9. Troubleshooting the Power Supply

The following is a list of probable faults and their associated corrective action. Observe all safety precautions when working on this unit. See Table 6 for Troubleshooting Guide and Figure 45: Schematic, Wiring, Power Supply, Military.

Failure	Probable Cause	Corrective Action
Unit does not energize	• Main Breaker • Main AC IN Connector • H1 or H4 Terminals (Primary) • AC wires loose (inside)	- Reset main breaker - Disconnect and reset AC IN Connector - Check voltage at H1/H4, Possible bad Primary Transformer. Order and replace. - Check for loose wires, retighten as necessary
Upper and/or Lower Light will not energize	• Front panel breaker(s) • Light bulb(s) • Loose wire on front breakers	- See if light indicator is on. If not, reset breaker - Replace bulb(s) - Reterminate wires on breaker assembly
Breaker indicator on, but light not working	• Transformer secondary fuse • Light bulb(s) • AC OUT Connector • AC OUT Connections	- Replace 9 amp secondary fuse(s) - Replace light bulb(s) - Reset AC Out Connector - Check for broken wires on AC OUT Connector
Light bulbs burning out too quickly	• Incorrect secondary voltage settings	- Adjust secondary voltages by moving X2-X8 to set voltage to 21.4vac as read at light head
Front panel ON light indicators not working	• Bad ground on breaker • Blown LED indicator	- Check Red and Black 28 AWG wires on secondary of breaker. Reterminate wires. - Replace 20 Amp breaker assembly

Table 6: Power Supply Troubleshooting

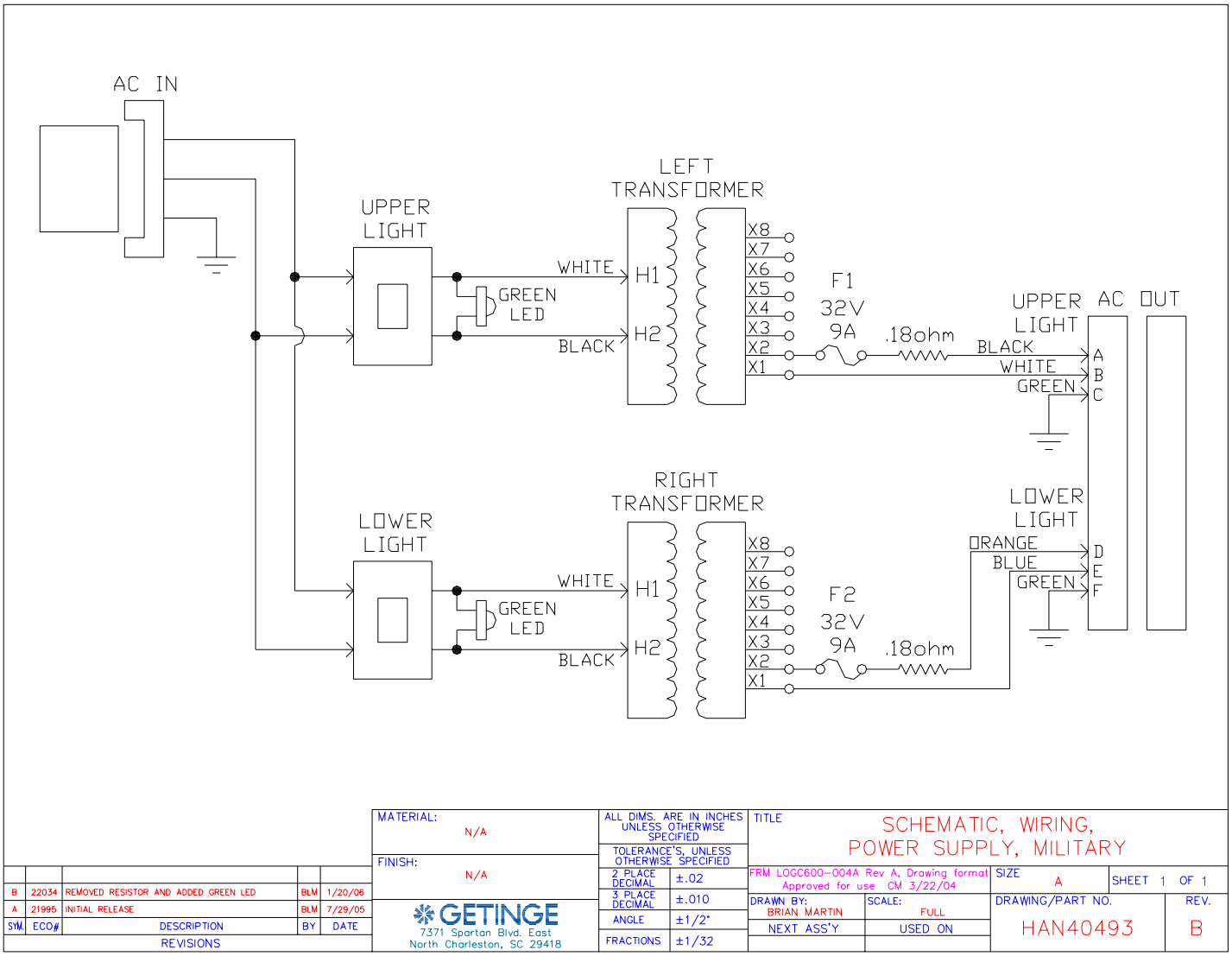


Figure 45: Schematic, Wiring, Power Supply, Military

Section 10.0: Parts Listing

10.1 Table 7 provides upper level part numbers for Blue 80 system components.

Item	PART NUMBER	PART NAME	FIGURE
1	569004905	Ceiling Flange	Figure 46
2	569004990	Suspension, Duo, Blue 80	Figure 46
3	569004991	Spring Arms	Figure 47
4	5607-7852	Blue 80 Lightheads	Figure 47
5	BLUE80/80CASE	Blue 80 Shipping Container	Figure 24

Table 7, Upper level system part numbers/components

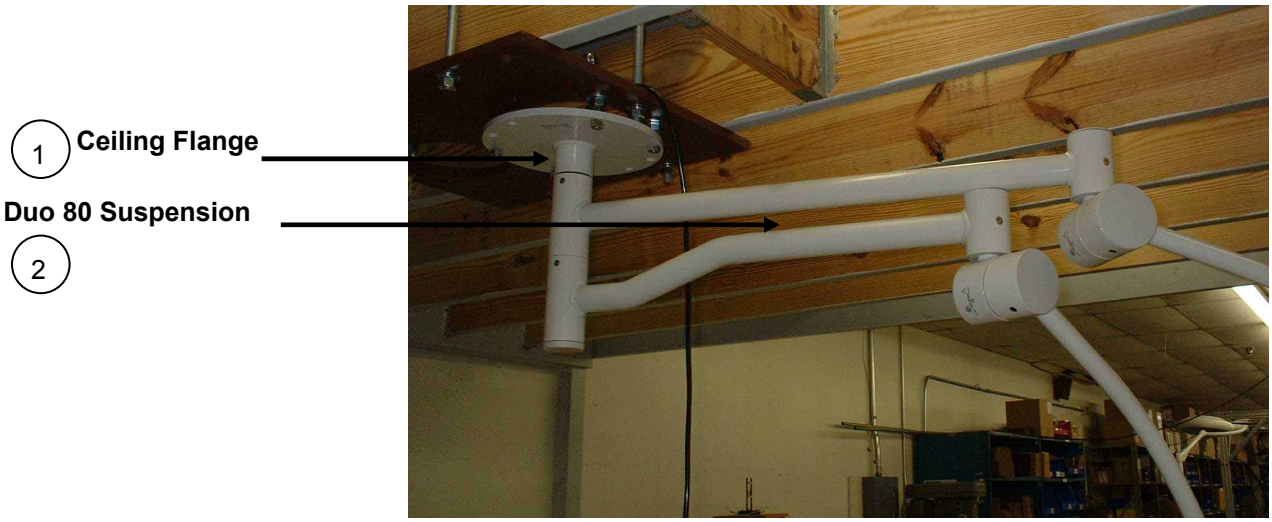


Figure 46: Flange and Suspension

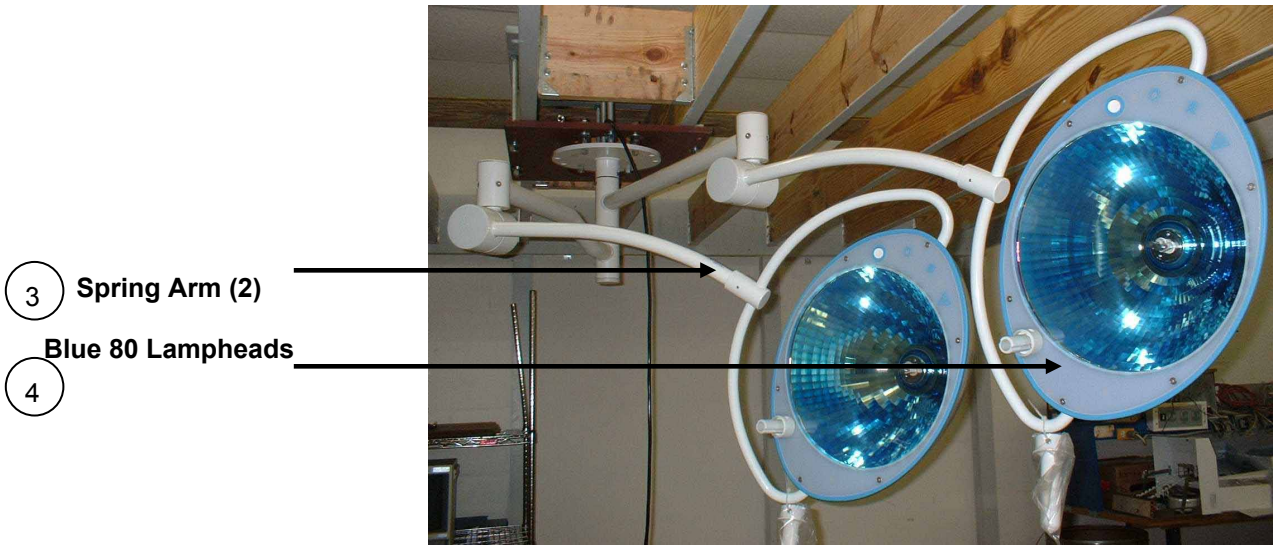


Figure 47: Spring Arms and Lightheads

10.2 Blue 80 Lighthead Parts

10.2.1 Figure 48 below, designates part numbers for Blue 80 lighthead, Part number 5607-7852. For individual component breakdown, refer to Table 7.

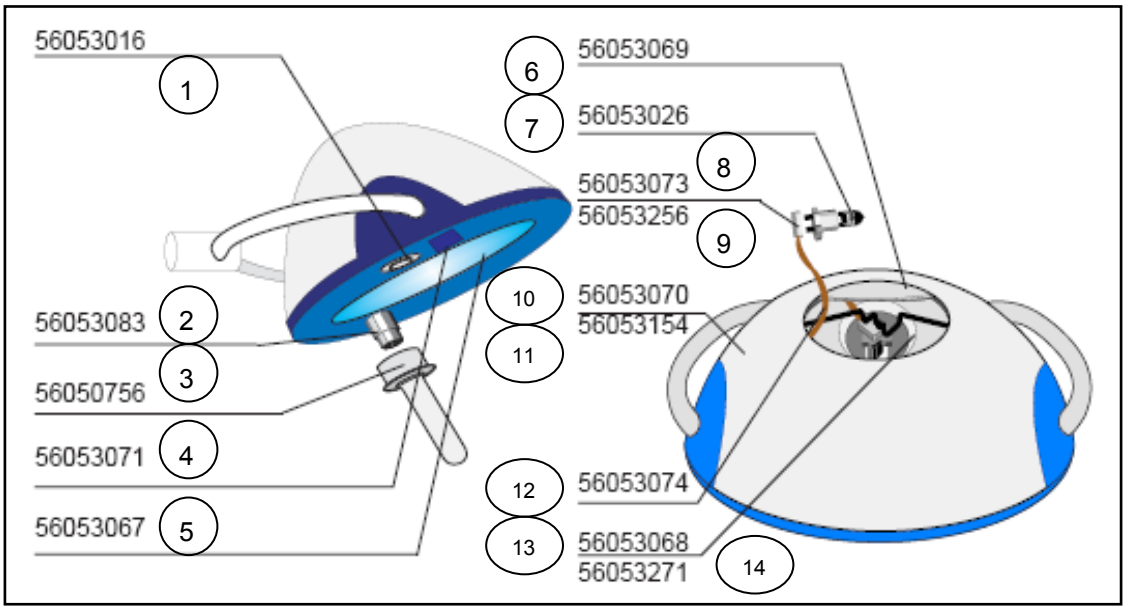


Figure 48: Blue 80 Light Components

Item	Part number	Part description
1	5605-3016	Blue switch 1 pole 250 v 10 a
2	5605-3083	Blue80, Handle-adapter
3	5605-0756	Handle; plastic ;2000 series; pkg. (3)
4	5605-3071	Assy PCB. b80 light head
5	5605-3067	Blue 80 disc, glass
6	5605-3069	Blue 80 with leaf spring
7	5605-3026	Bulb; B80 21.5v; 130 w
8	5605-3073	Blue 80 bulb sockets
9	5605-3256	Blue 80 bulb wire
10	5605-3070	Cover
11	5605-3154	Assy, dome cap cover lighthead
12	5605-3074	Blue 80 wiring complete
13	5605-3068	Blue 80 reflector
14	5605-3271	Blue 80 reflector f.

Table 8: Blue 80 Part Number/Descriptions

10.3 ISO Shelter Mounting Kit

10.3.1 Table 9 provides the parts contained in the ISO Mounting Kit, Part Number HAN40525. The individual part drawings follow.

Figure	Part number	Part description
49	HAN40457	Assy, conduit, 1/2" emt
50	HAN40460	Assy, ring, anchor plate
51	HAN40464	Toggle, spring wing
52	HAN40465	Screw, rh, ph,.250-20, unc3a,
53	HAN40466	Plate, holding, velcro
54	HAN40467	Template, mtg, xfmr box, army
55	HAN40468-24	Strap, velcro, 2" x 24"
55	HAN40468-40	Strap, velcro, 2" x 40"
56	HAN40475	Cover, transport, arm
57	HAN40482	Conn., Turn lock, female 20 a
58	HAN40487	Assy, cable, ac out, external
59	HAN40541	Brkt, mtg, elect box, army
60	HAN40551	Nut, wire, twist, yellow

Table 9: ISO Mounting Kit

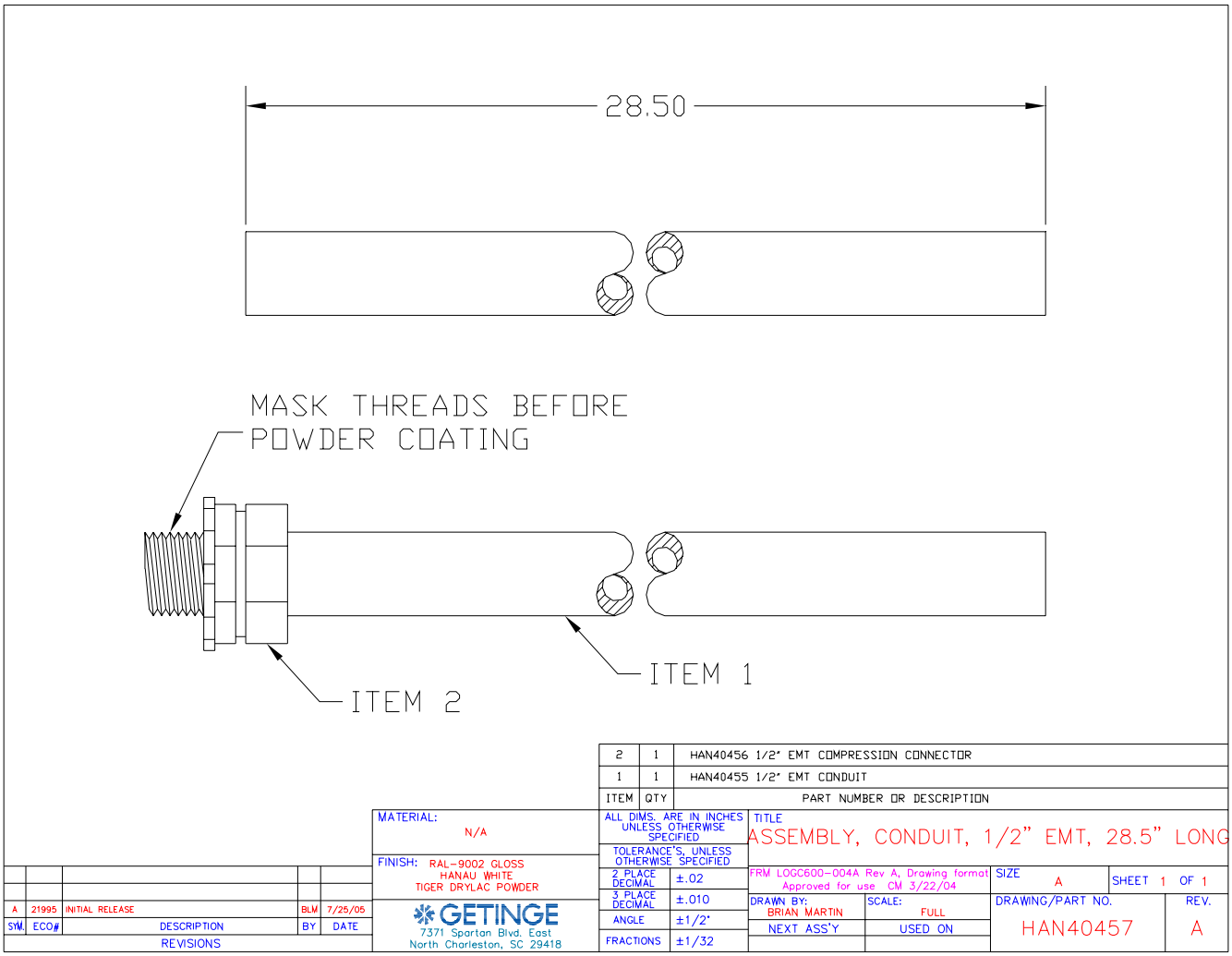
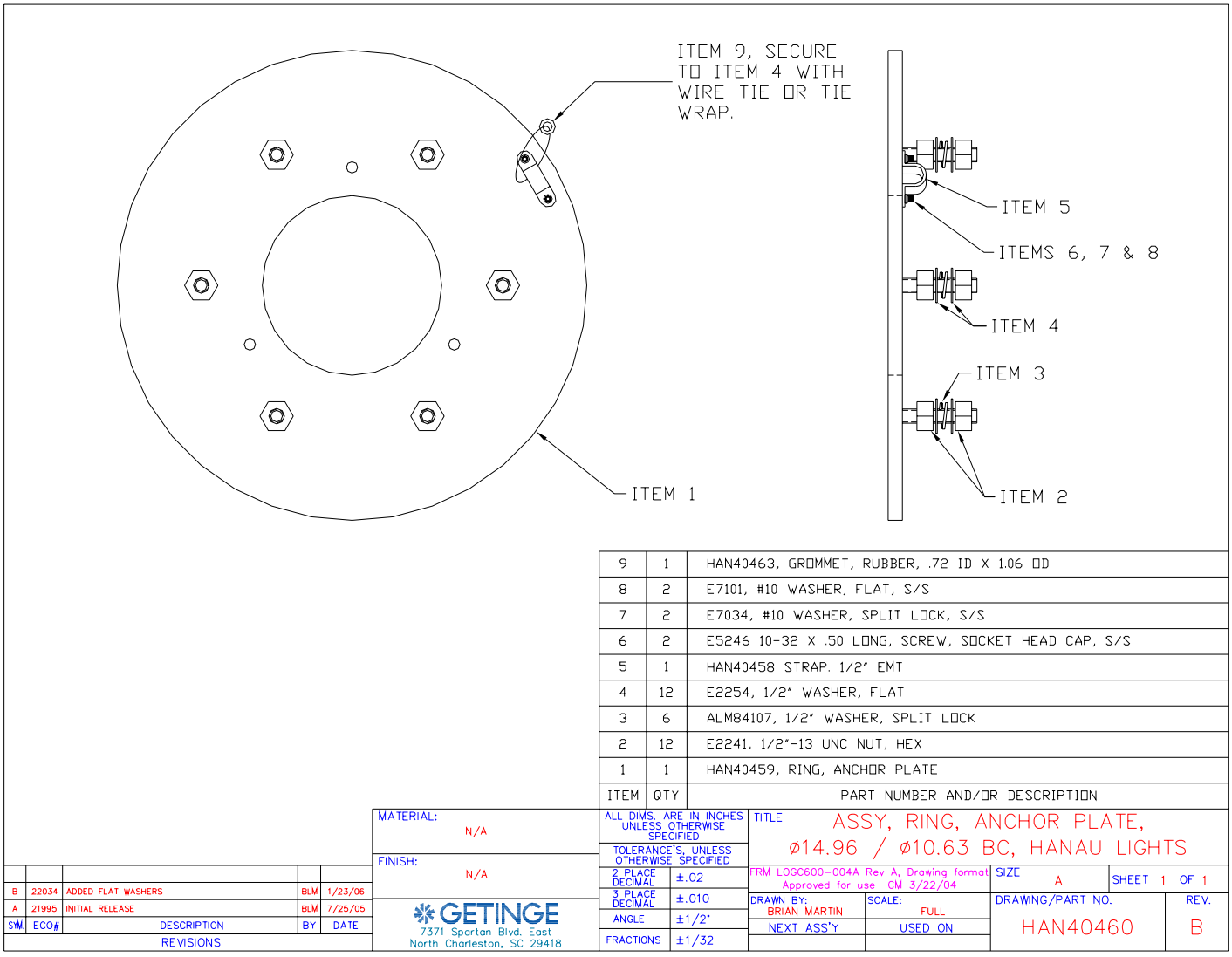


Figure 49: HAN40457 Assembly, Conduit, ½" EMT, 28.5" Long



ITEM	QTY	PART NUMBER AND/OR DESCRIPTION
9	1	HAN40463, GROMMET, RUBBER, .72 ID X 1.06 OD
8	2	E7101, #10 WASHER, FLAT, S/S
7	2	E7034, #10 WASHER, SPLIT LOCK, S/S
6	2	E5246 10-32 X .50 LONG, SCREW, SOCKET HEAD CAP, S/S
5	1	HAN40458 STRAP. 1/2" EMT
4	12	E2254, 1/2" WASHER, FLAT
3	6	ALM84107, 1/2" WASHER, SPLIT LOCK
2	12	E2241, 1/2"-13 UNC NUT, HEX
1	1	HAN40459, RING, ANCHOR PLATE

MATERIAL: N/A
FINISH: N/A

ALL DIMS. ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCE'S, UNLESS OTHERWISE SPECIFIED
2 PLACE DECIMAL ±.02
3 PLACE DECIMAL ±.010
ANGLE ±1/2"
FRACTIONS ±1/32

TITLE: ASSY, RING, ANCHOR PLATE, ø14.96 / ø10.63 BC, HANAU LIGHTS
FRM LOGC600-004A Rev A, Drawing format Approved for use CM 3/22/04
SIZE A | SHEET 1 OF 1
DRAWN BY: BRIAN MARTIN | SCALE: FULL
NEXT ASS'Y | USED ON
DRAWING/PART NO. HAN40460 | REV. B

SW	ECO#	DESCRIPTION	BY	DATE
B	22034	ADDED FLAT WASHERS	BLM	1/23/06
A	21995	INITIAL RELEASE	BLM	7/25/05

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7371 Spartan Blvd. East
North Charleston, SC 29418

Figure 50: HAN40460 Assy, Ring, Anchor Plate,

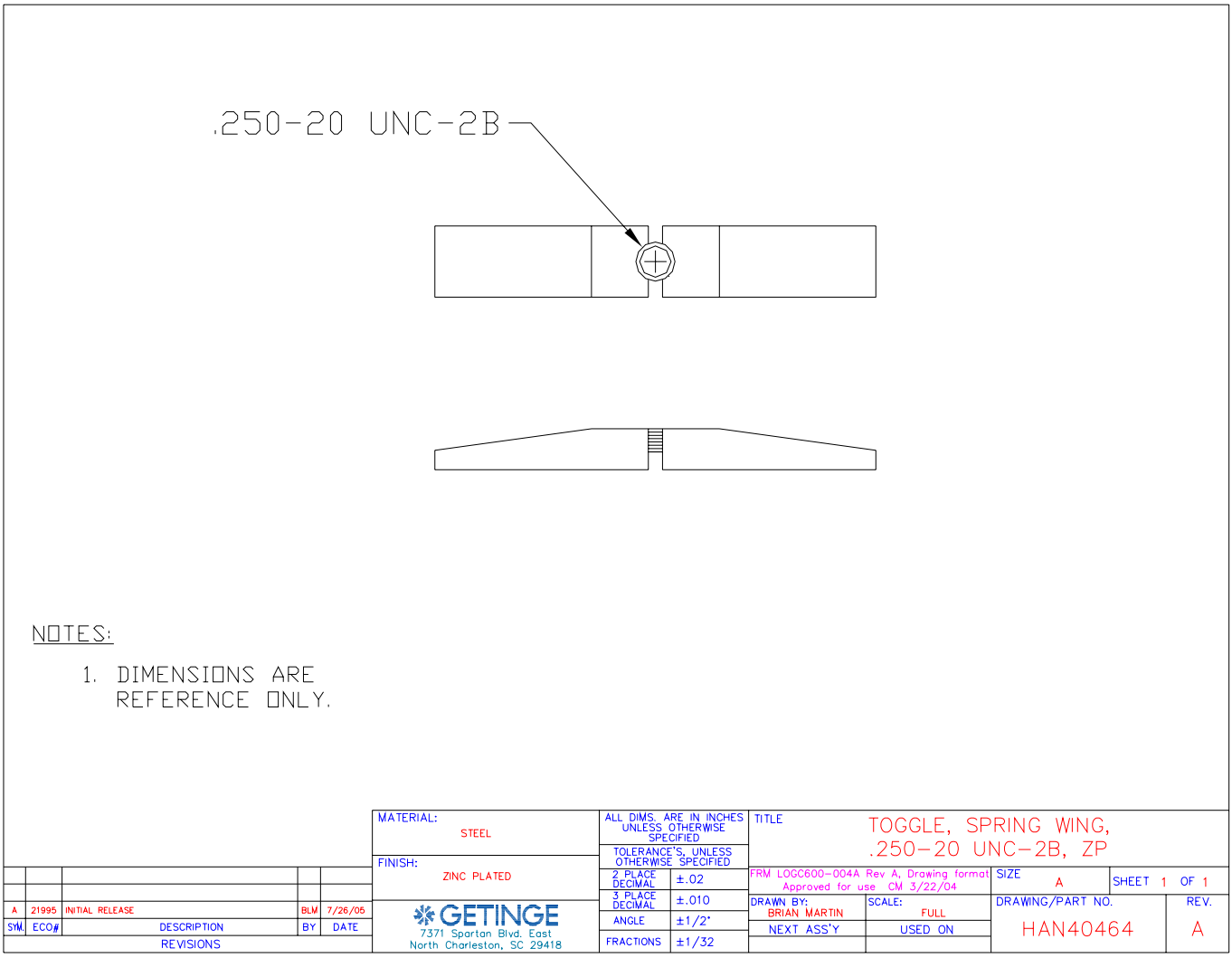


Figure 51: HAN40464 Toggle, Spring Wing

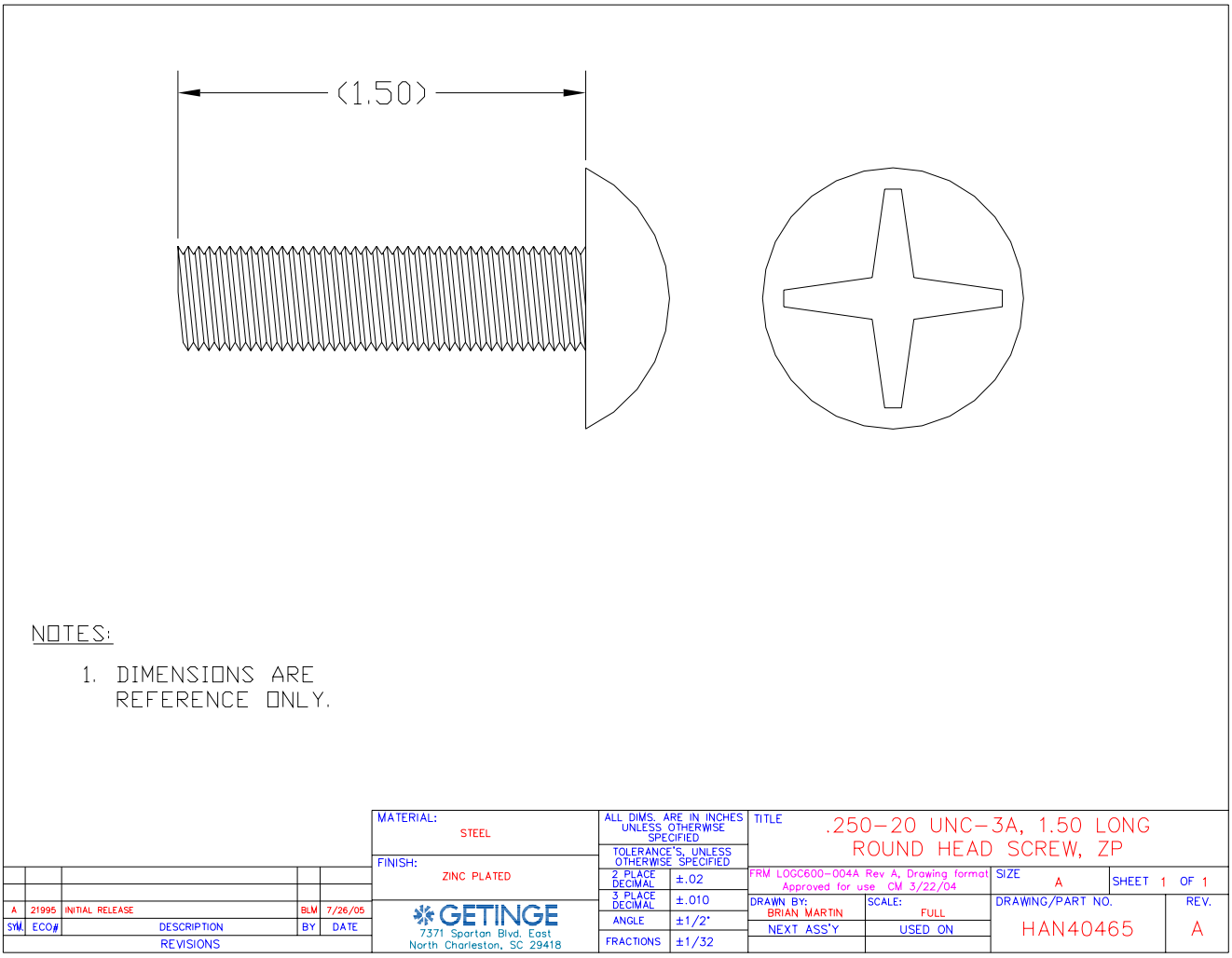


Figure 52: HAN40465 Round Head Screw, ZP

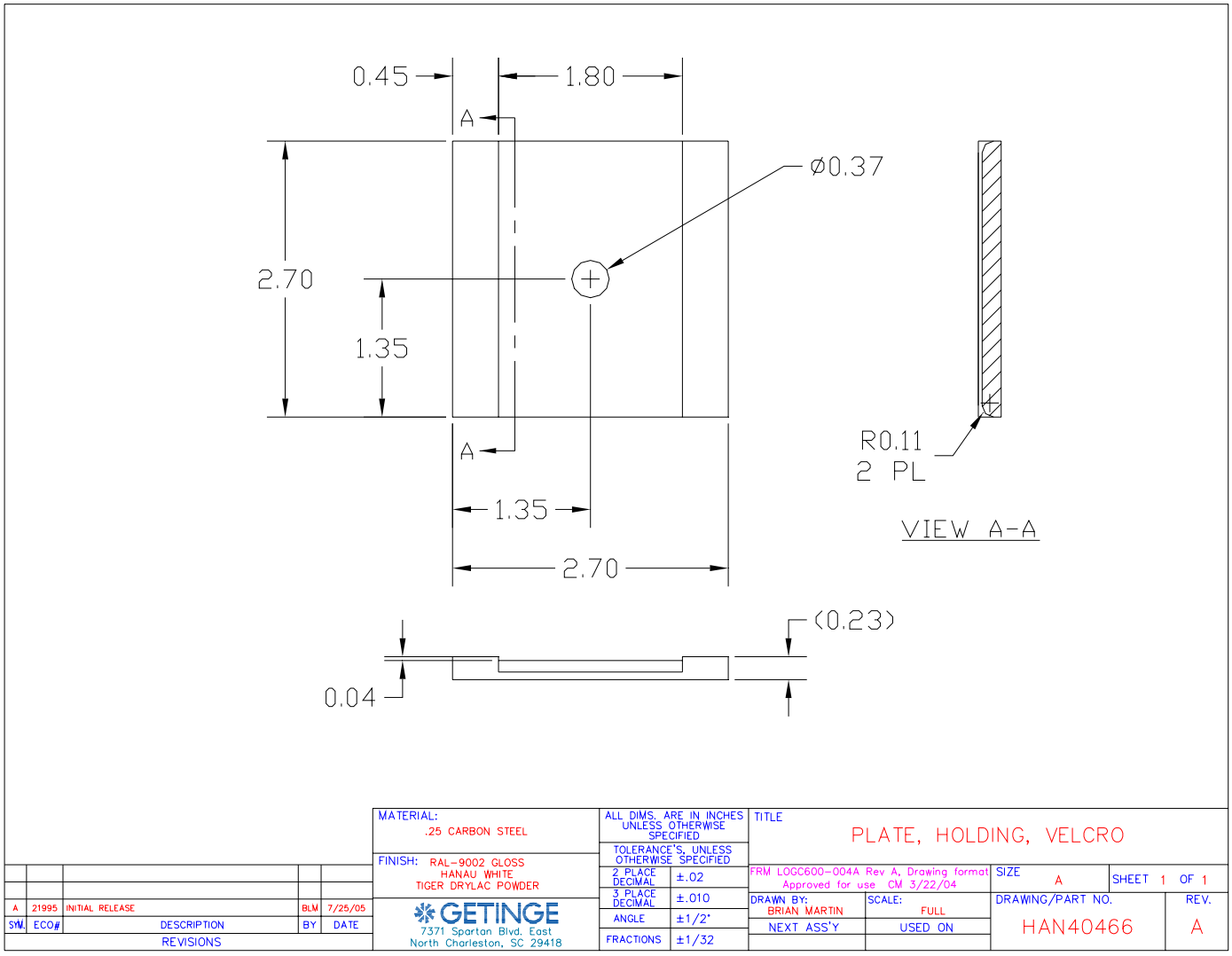


Figure 53: HAN40466 Plate, Holding, Velcro

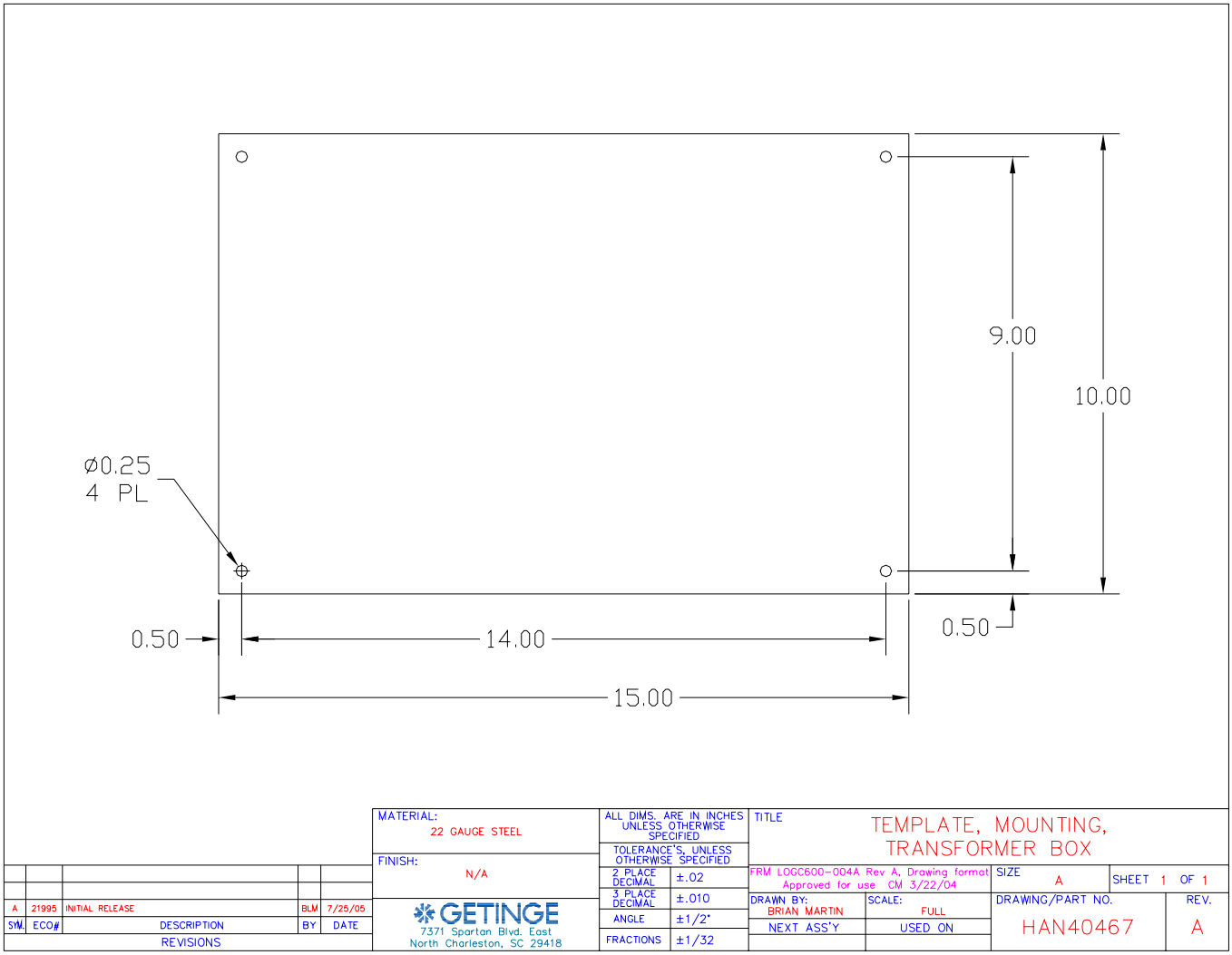
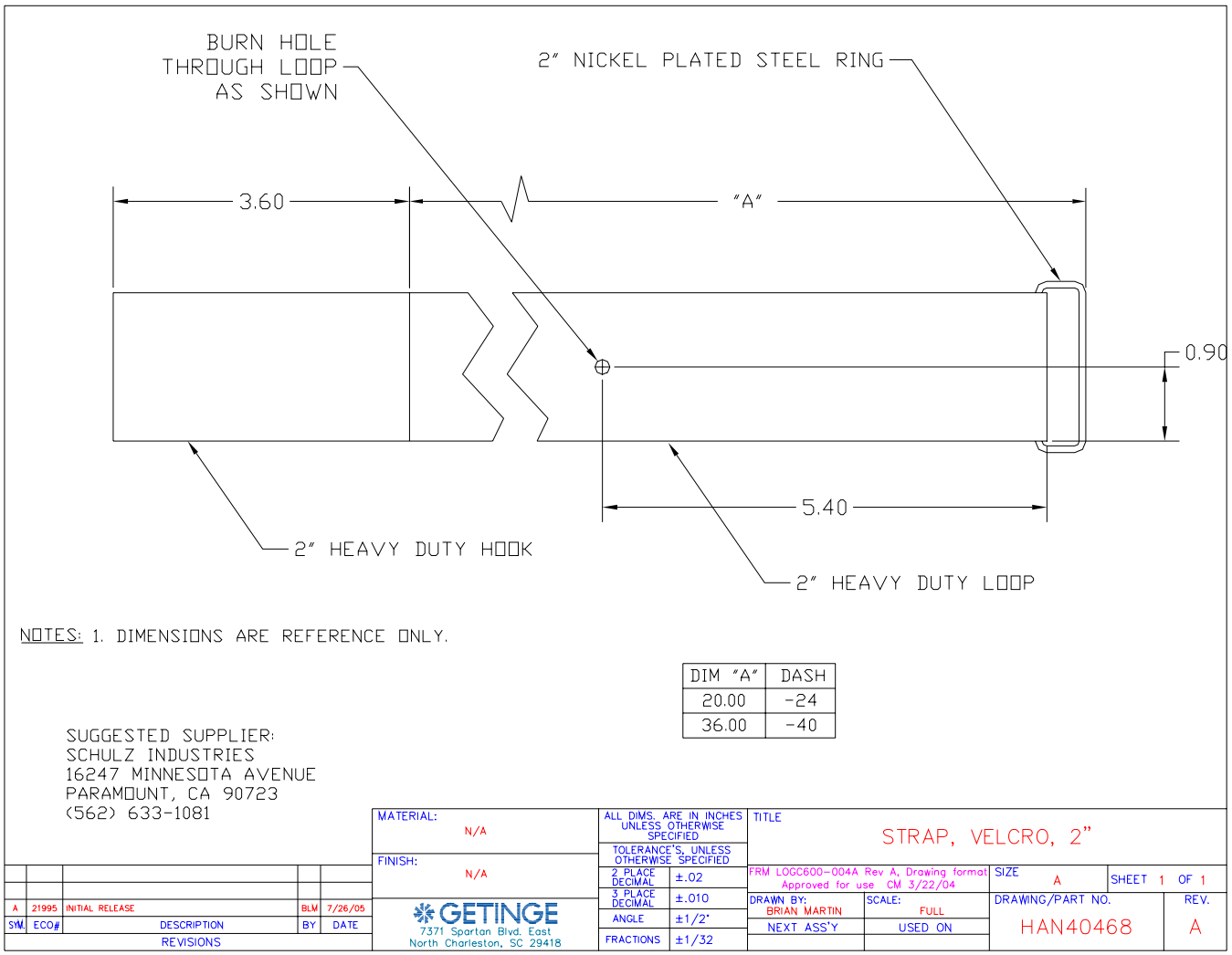


Figure 54: HAN40467 Template, Mounting, Transformer Box, Military



NOTES: 1. DIMENSIONS ARE REFERENCE ONLY.

DIM "A"	DASH
20.00	-24
36.00	-40

SUGGESTED SUPPLIER:
SCHULZ INDUSTRIES
16247 MINNESOTA AVENUE
PARAMOUNT, CA 90723
(562) 633-1081

A	21995	INITIAL RELEASE	BLM	7/26/05
SW	ECO#	DESCRIPTION	BY	DATE
REVISIONS				

MATERIAL: N/A
FINISH: N/A
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7371 Spartan Blvd. East
North Charleston, SC 29418

ALL DIMS. ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCE'S, UNLESS OTHERWISE SPECIFIED
2 PLACE DECIMAL ±.02
3 PLACE DECIMAL ±.010
ANGLE ±1/2°
FRACTIONS ±1/32

TITLE: STRAP, VELCRO, 2"
FRM LOGC600-004A Rev A, Drawing format Approved for use CM 3/22/04
SIZE A | SHEET 1 OF 1
DRAWN BY: BRIAN MARTIN | SCALE: FULL
NEXT ASS'Y | USED ON
DRAWING/PART NO. HAN40468 | REV. A

Figure 55: HAN40468 Strap, Velcro, 2"

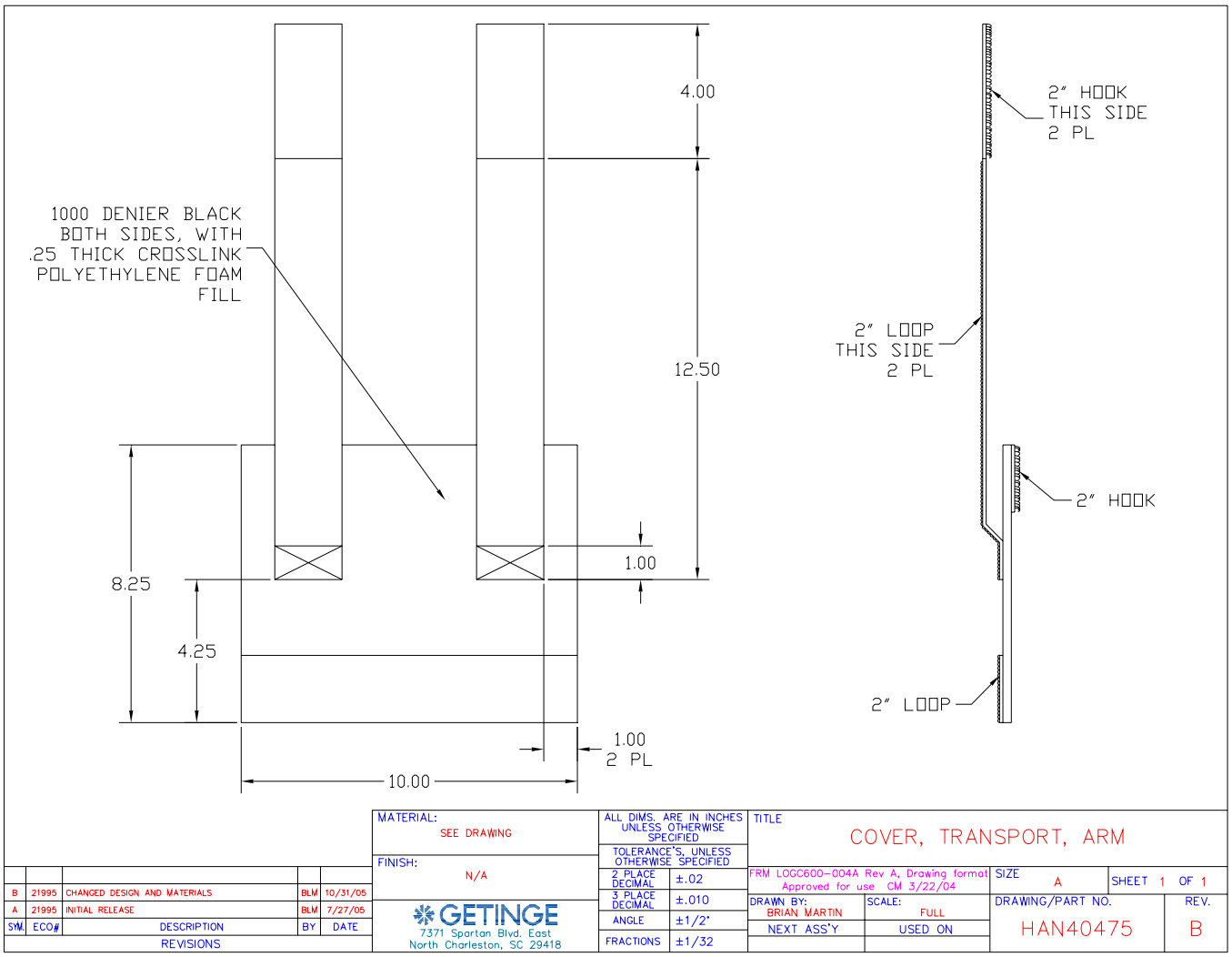


Figure 56: HAN40475 Cover, Transport, Arm

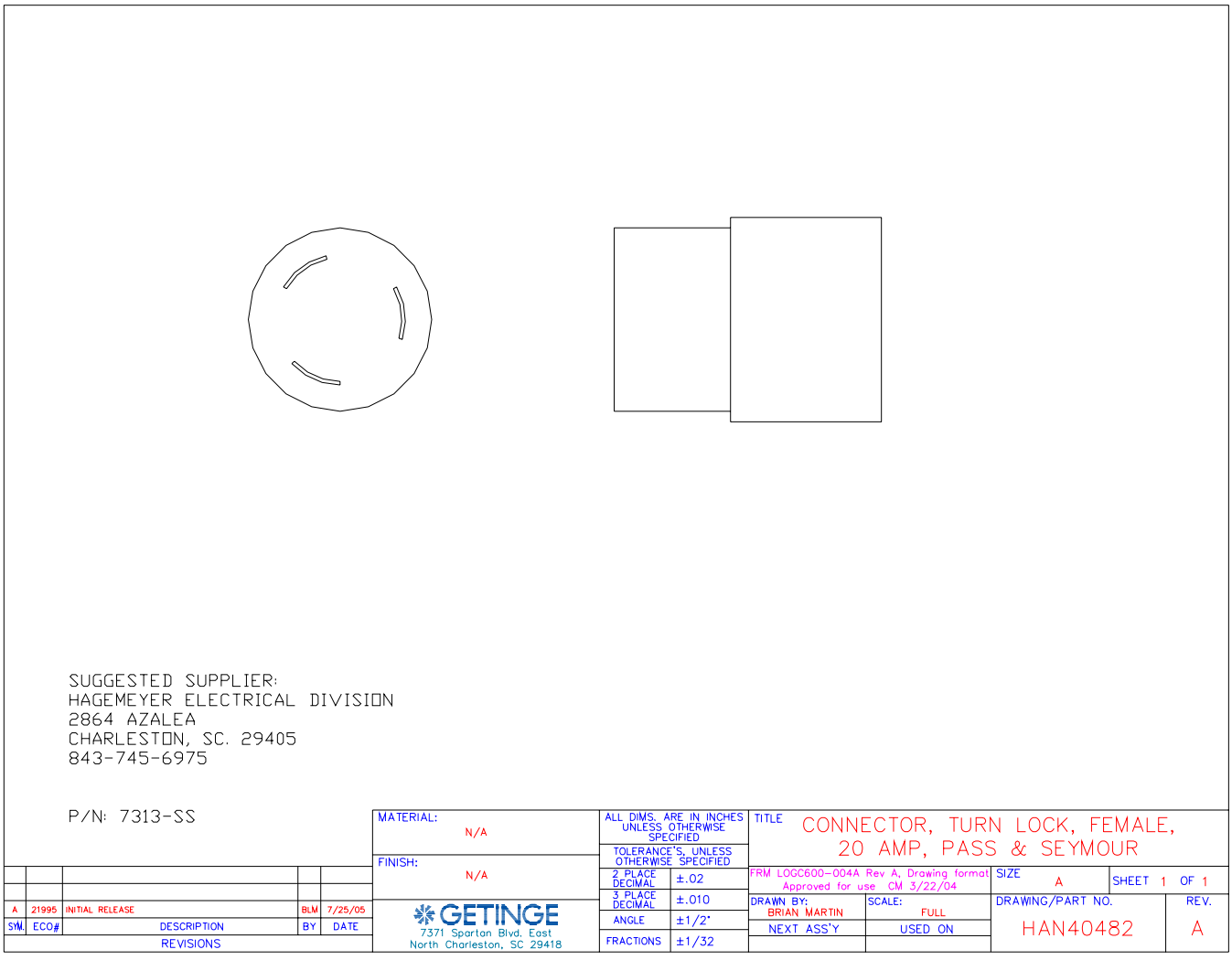
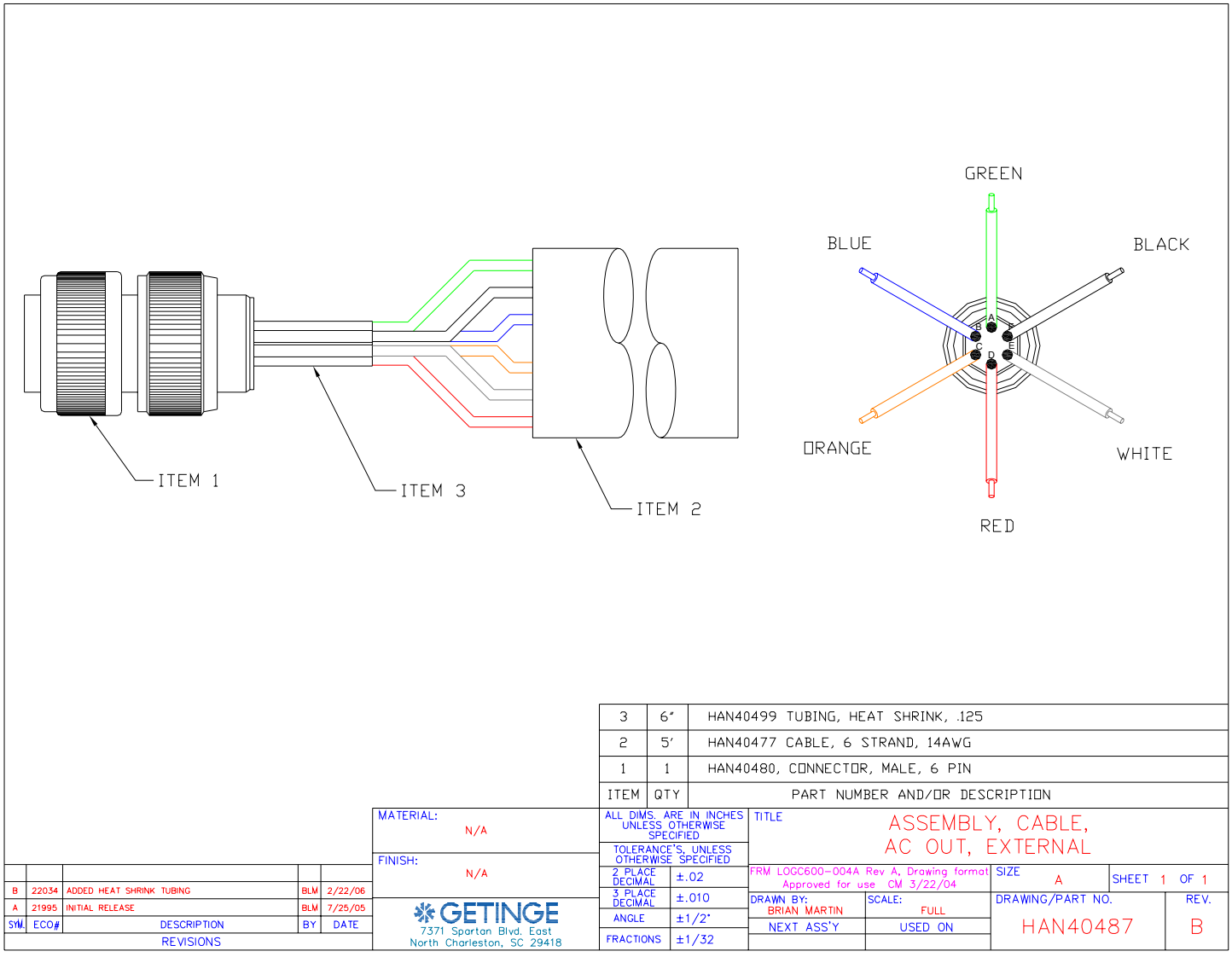


Figure 57: HAN40482 Connector, Turn Lock, Female, 20 AMP



ITEM	QTY	PART NUMBER AND/OR DESCRIPTION
3	6"	HAN40499 TUBING, HEAT SHRINK, .125
2	5'	HAN40477 CABLE, 6 STRAND, 14AWG
1	1	HAN40480, CONNECTOR, MALE, 6 PIN

SYM.	ECO#	DESCRIPTION	BY	DATE
B	22034	ADDED HEAT SHRINK TUBING	BLM	2/22/06
A	21995	INITIAL RELEASE	BLM	7/25/05

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MATERIAL: N/A

FINISH: N/A

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North Charleston, SC 29418

ALL DIMS. ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCE'S, UNLESS OTHERWISE SPECIFIED

2 PLACE DECIMAL	±.02
3 PLACE DECIMAL	±.010
ANGLE	±1/2°
FRACTIONS	±1/32

TITLE: ASSEMBLY, CABLE, AC OUT, EXTERNAL

FRM LOGC600-004A Rev A, Drawing format Approved for use CM 3/22/04

SIZE: A | SHEET 1 OF 1

DRAWN BY: BRIAN MARTIN | SCALE: FULL

NEXT ASS'Y | USED ON

DRAWING/PART NO.: HAN40487 | REV.: B

Figure 58: HAN40487 Assembly, Cable, AC Out, External, Military

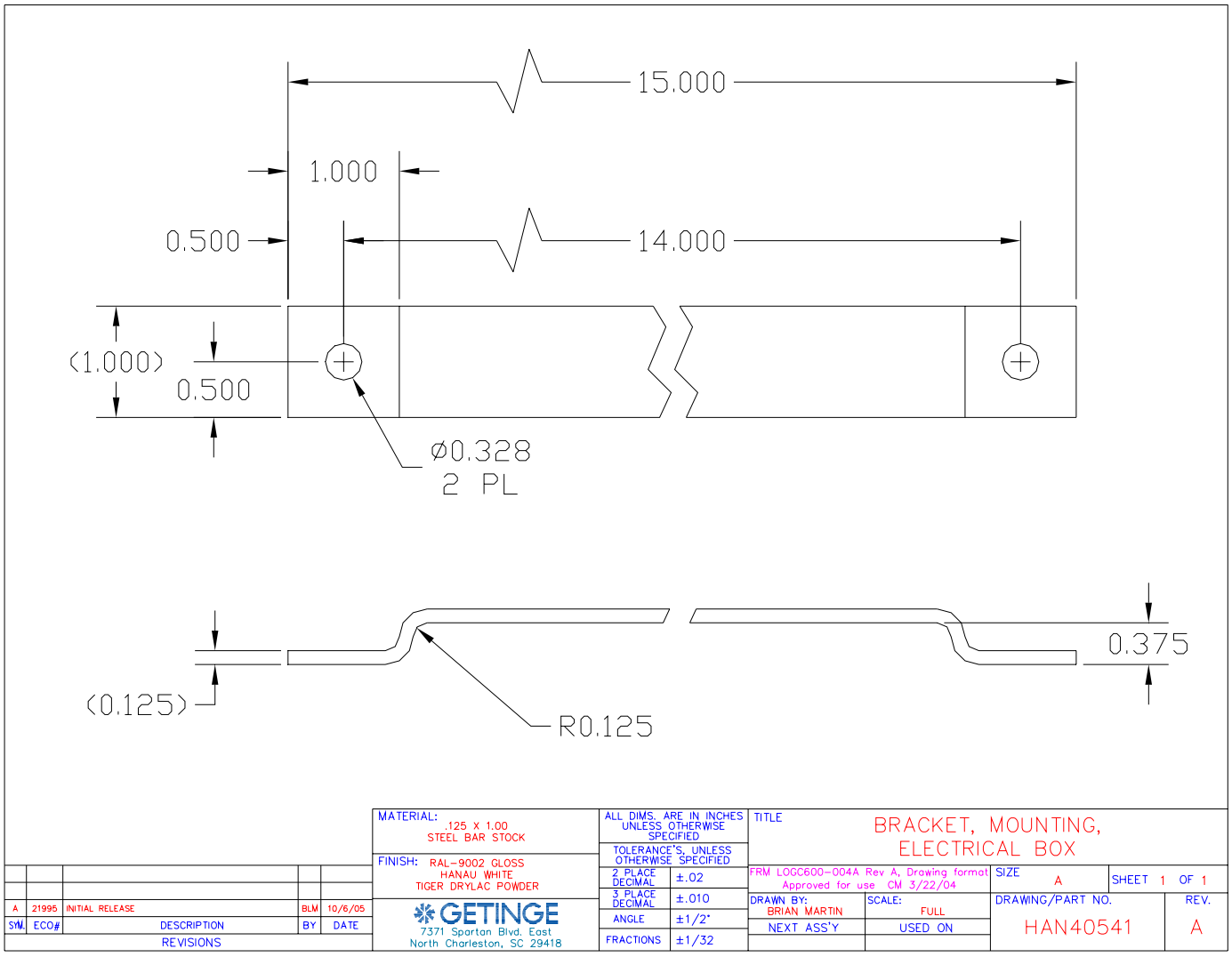

Figure 59: HAN40541 Bracket, Mounting, Electrical Box, Military

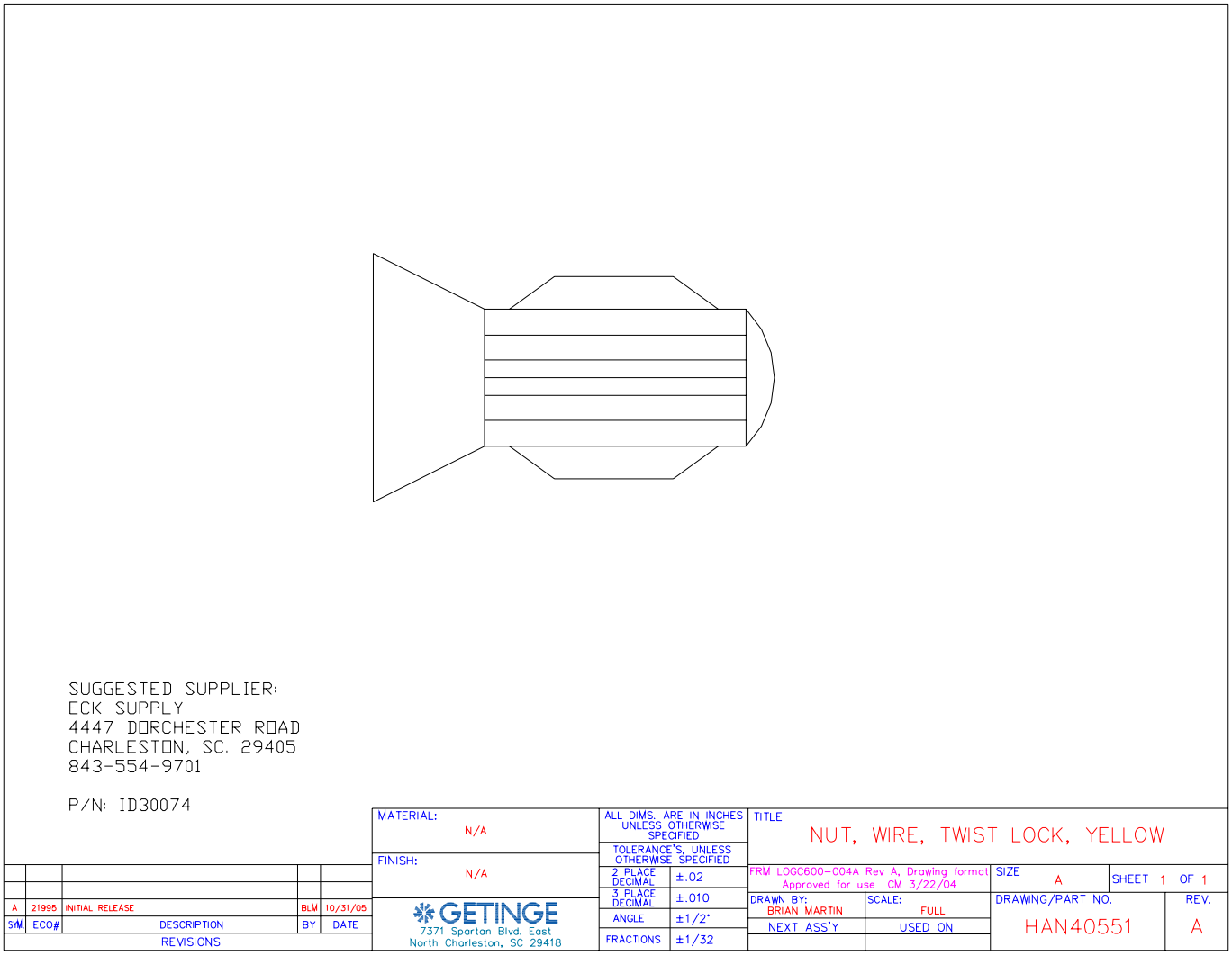

Figure 60: HAN40551 Nut, Wire, Twist Lock, Yellow

10.4 Power Supply

10.4.1 The following drawings provide the power supply part numbers. See Figures 61-66.

ITEM	QTY	PART NUMBER AND/OR DESCRIPTION
29	0	NOT USED AT THIS TIME
28	4	E7027 WASHER, LOCK, #4 SPLIT RING
27	1	HAN40560 DECAL, CAUTION
26	8	E0149 NUT, 10-32 HEX
25	8	11RON1611 WASHER, FLAT, #10
24	8	5153100155 WASHER, LOCK, #10 SPLIT RING
23	8	B106520 SCREW, 10-32 X .50 LONG, TRUSS HEAD
22	2	HAN40498 TERMINAL, FORK, 14-16 GAUGE FEMALE
21	24"	HAN40491 WIRE, 14AWG STRANDED, ORANGE
20	1	HAN40469, BAR, 4 HOLE NEUTRAL
19	2	HAN40476 RESISTOR, 25 WATT, .18ohm
18	2	HAN40483 TRANSFORMER, SINGLE PHASE, .500 KVA, 60 HZ
17	1	HAN40486 ASSEMBLY, CABLE, AC IN, POWER SUPPLY
16	1	HAN40485 ASSEMBLY, CABLE, DC OUT, POWER SUPPLY
15	6	ALM85446 TERMINAL, RING, 14-16 GAUGE, BLUE
14	6	HAN40497 CONNECTOR, PIGGYBACK, 14-16 AWG, .25 TAB
13	8	ALM85115 TERMINAL, WIRE, 14-16 GA, FEMALE
12	24"	303795 WIRE, 14AWG STRANDED, BLACK
11	24"	303791 WIRE, 14AWG STRANDED, WHITE
10	2	HAN40578 LED, GREEN
9	5	9181-1400 NUT, KEP, 6-32
8	1	HAN40559 DECAL, FOR USE WITH DUO BLUE 80
7	1	HAN40474 DECAL, MAQUET HANAULUX
6	1	HAN40473 DECAL, AC OUT
5	1	HAN40472 DECAL, AC IN
4	1	HAN40471 DECAL, LOWER LIGHT
3	1	HAN40470 DECAL, UPPER LIGHT
2	2	HAN40478, BREAKER, LIGHTED, SPDT 20
1	1	HAN40484, ENCLOSURE, 12" X 12" X 6"

ITEM	QTY	PART NUMBER AND/OR DESCRIPTION
54	1	HAN40602 DECAL, UL APPROVED
53	5	TIE, CABLE, SMALL
52	1	HAN40588 DECAL, GROUND REQUIREMENTS
51	1	HAN40587 DECAL, POWER RATING
50	1	HAN40586 DECAL, FUSE RATING
49	1	HAN40585 DECAL, FUSE F2
48	1	HAN40584 DECAL, FUSE F1
47	1	HAN40583 DECAL, STORAGE AND TRANSPORTATION
46	4"	HAN40589 TUBING, 3/4" DIAMETER, HEAT SHRINK
45	1	35686 CLAMP, CABLE, 1/2" DIAMETER
44	1	ALM43174 LABEL, GETINGE SERIAL NUMBER
43	4	B100959 NUT, .31-18 HEX
42	4	B105200 WASHER, FLAT, .31
41	4	E0128 WASHER, LOCK, .31 SPLIT RING
40	4	B106412 SCREW, .31-18 X .75 LONG, PAN HEAD PHILLIPS
39	4	HAN40542 CLIP, MOUNTING, ELECTRICAL BOX
38	1	DECAL, EARTH GROUND SYMBOL
37	4	E6610 4-40 X .31 SCREW, PAN HEAD
36	4	B104568 4-40 NUT, HEX
35	4	B0549443 WASHER, LOCK, SPLIT RING
34	3	E6339 SCREW, 6-32 X .25 LONG, BUTTON HEAD SOCKET
33	2	HAN40496 FUSE, 9 AMP BUSSMAN
32	2	HAN40495 HOLDER, FUSE
31	5"	HAN40601 TUBING, HEAT SHRINK, .187 ID
30	4	HAN40605 NUT, 4-40 HEX

SW.	ECO#	DESCRIPTION	BY	DATE
B	22034	REMOVED RESISTOR AND ADDED LED'S	BLM	1/20/06
A	21995	INITIAL RELEASE	BLM	7/28/05

REVISIONS

MATERIAL: N/A

FINISH: N/A

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North Charleston, SC 29418

ALL DIMS. ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCE'S, UNLESS OTHERWISE SPECIFIED

2 PLACE DECIMAL	±.02
3 PLACE DECIMAL	±.010
ANGLE	±1/2°
FRACTIONS	±1/32

TITLE: ASSEMBLY, POWER SUPPLY, MILITARY

FRM LOGC600-004A Rev A, Drawing format Approved for use CM 3/22/04

SIZE: A | SHEET 1 OF 6

DRAWN BY: BRIAN MARTIN | SCALE: FULL

NEXT ASS'Y | USED ON

DRAWING/PART NO.: HAN40489 | REV.: B

Figure 61: HAN40489 Assembly, Power Supply, Military, Sheet 1 of 6

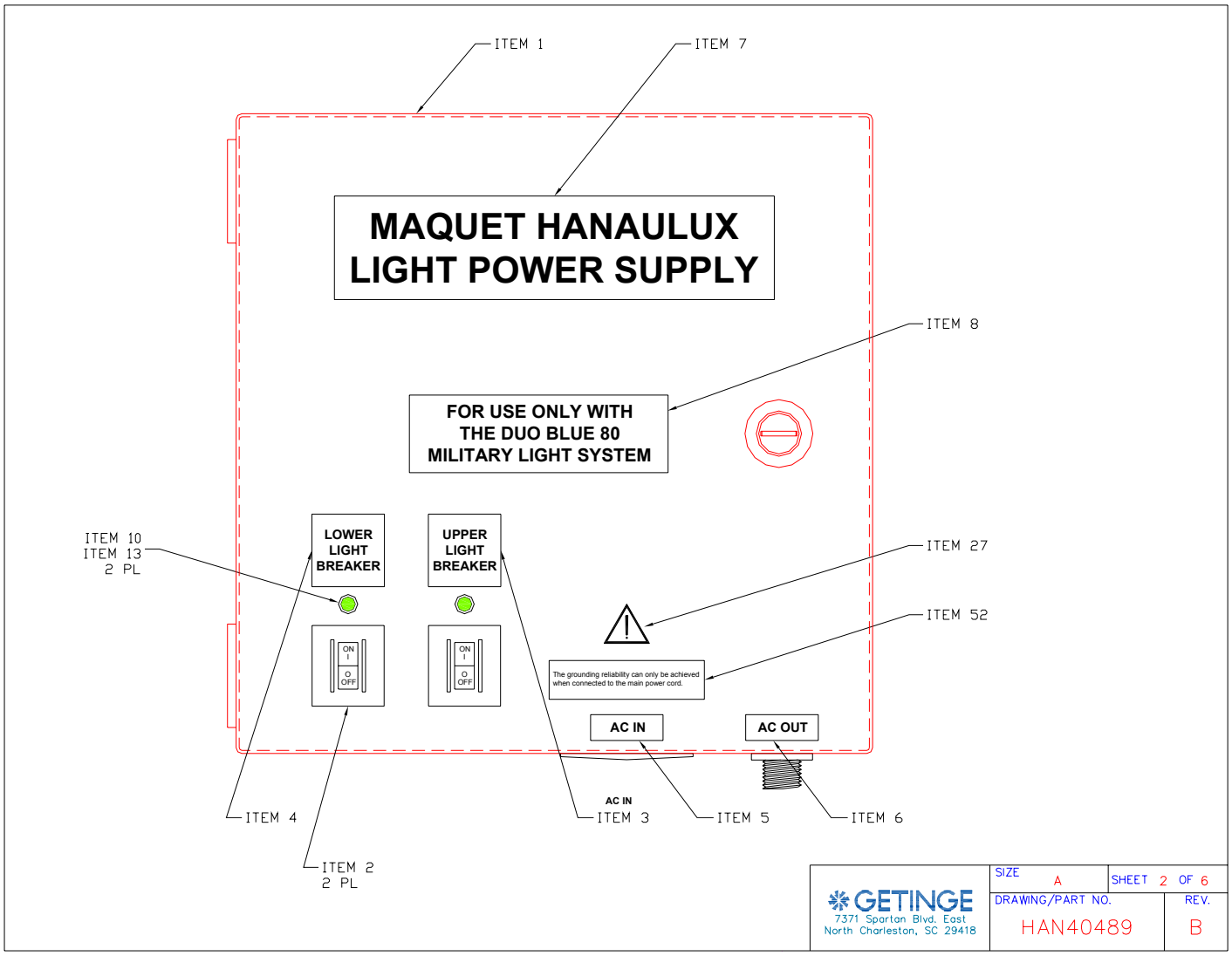

Figure 62: HAN40489 Assembly, Power Supply, Military, Sheet 2 of 6

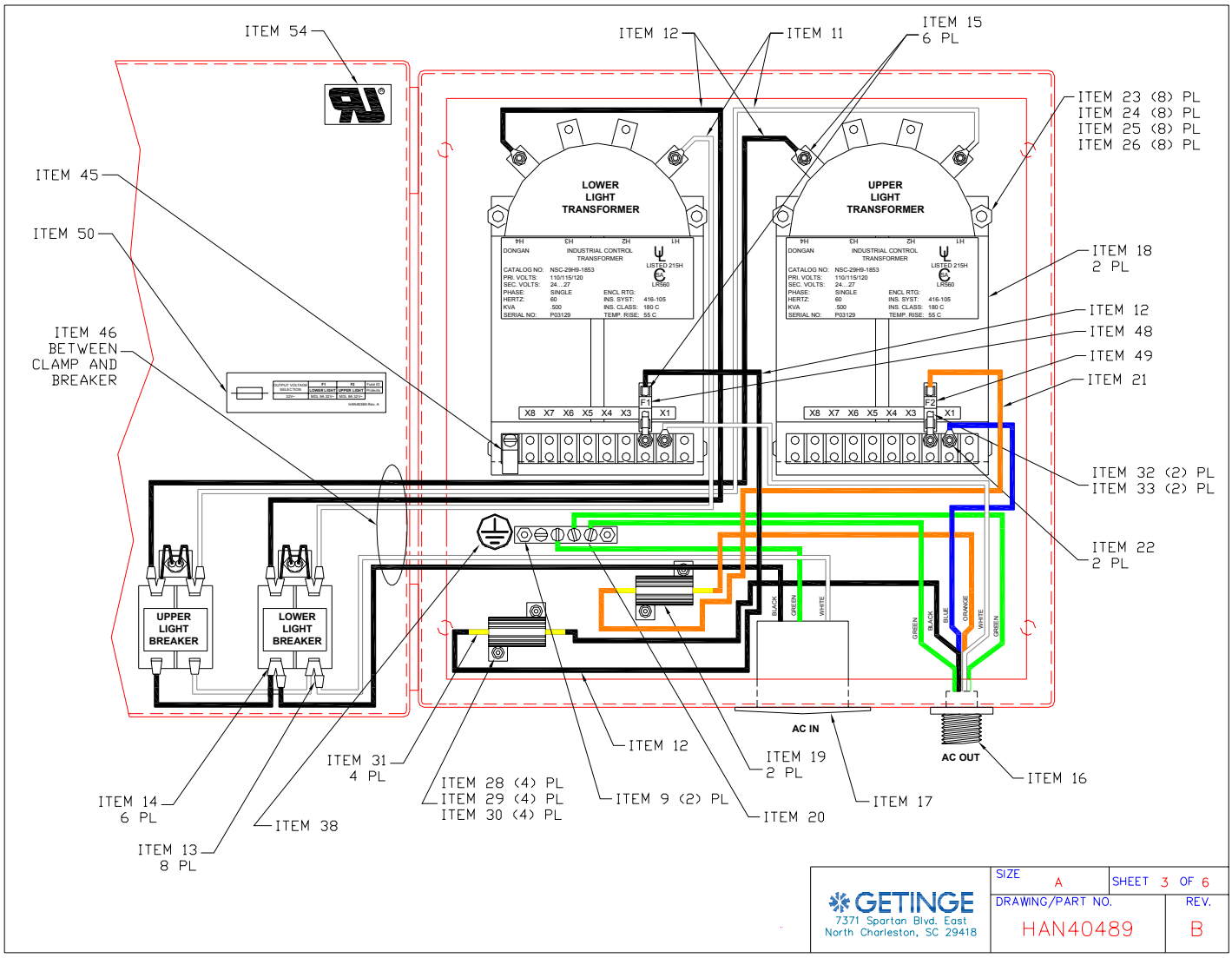

Figure 63: HAN40489 Assembly, Power Supply, Military, Sheet 3 of 6

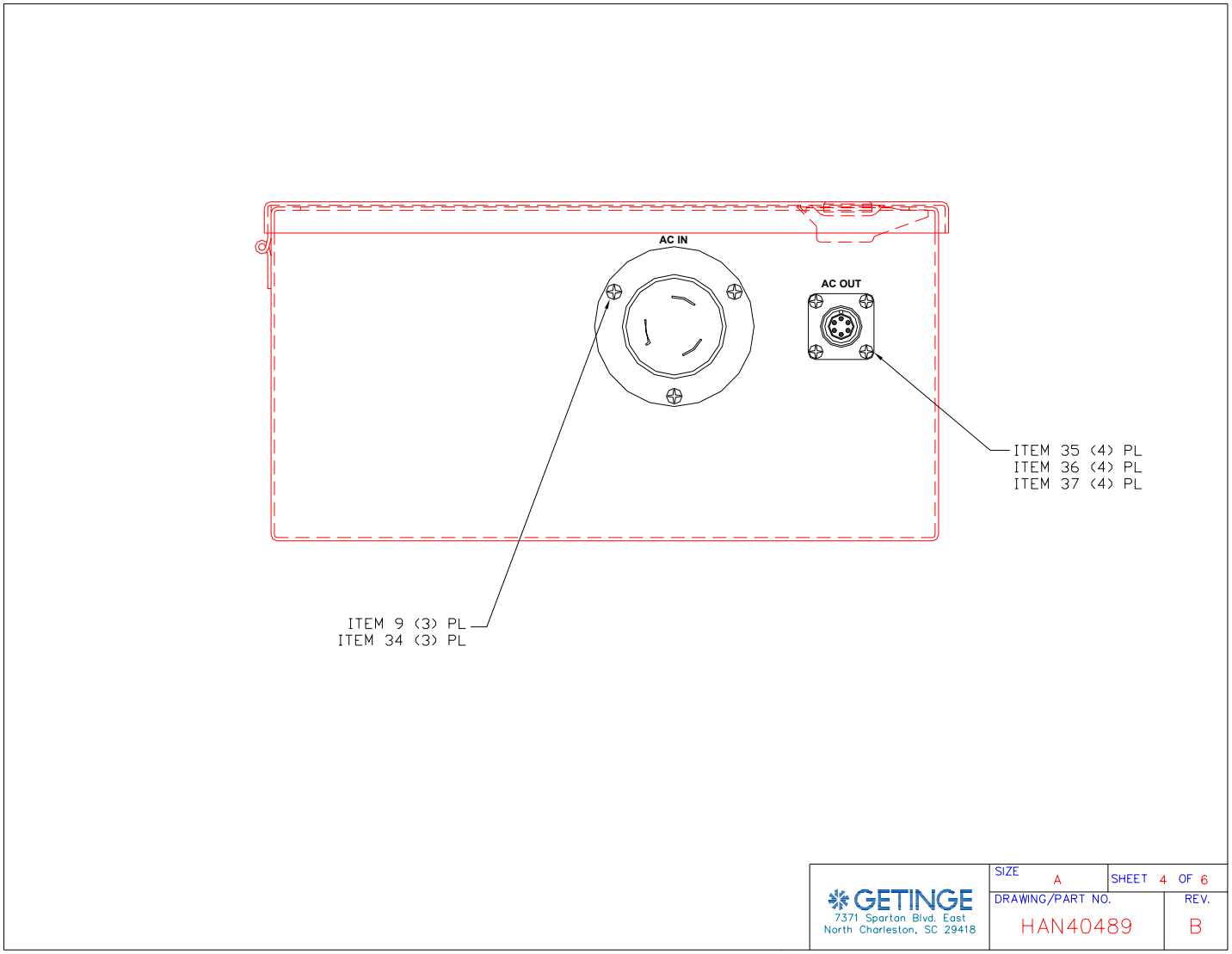

Figure 64: HAN40489 Assembly, Power Supply, Military, Sheet 4 of 6

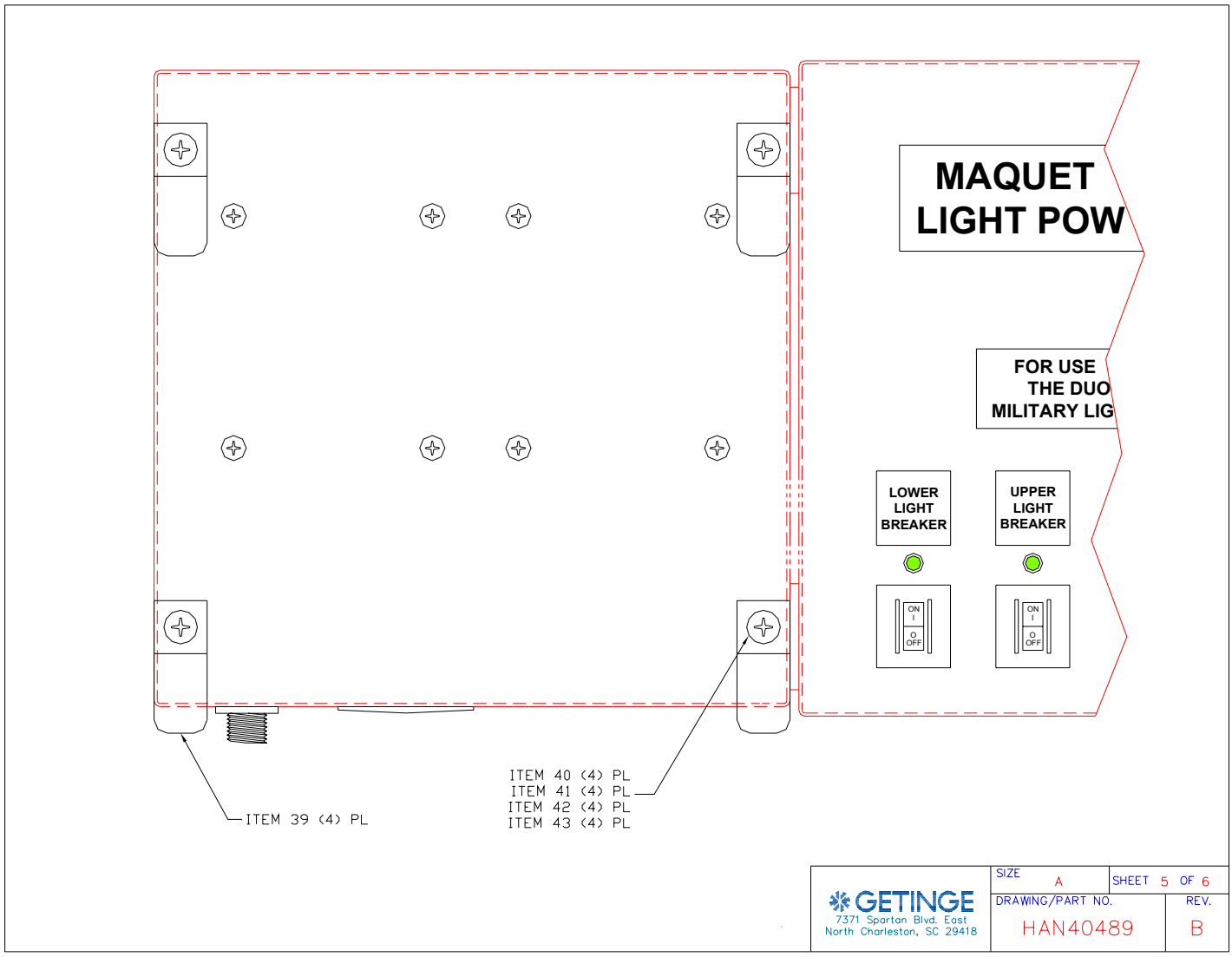

Figure 65: HAN40489 Assembly, Power Supply, Military, Sheet 5 of 6

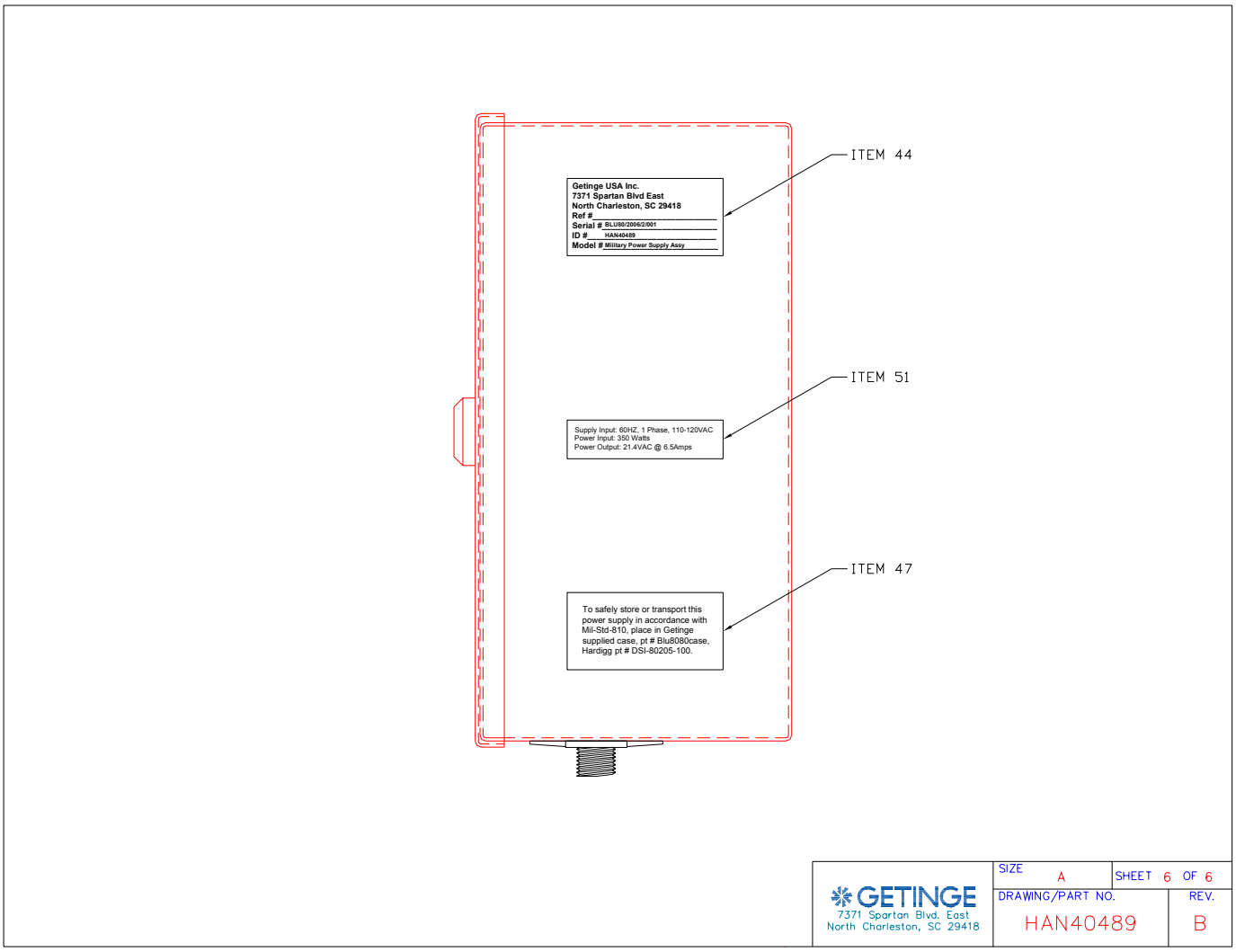

Figure 66: HAN40489 Assembly, Power Supply, Military, Sheet 6 of 6

10.5 Reusable Shipping Container.

10.5.1 The drawings shown are information on the reusable shipping containers.

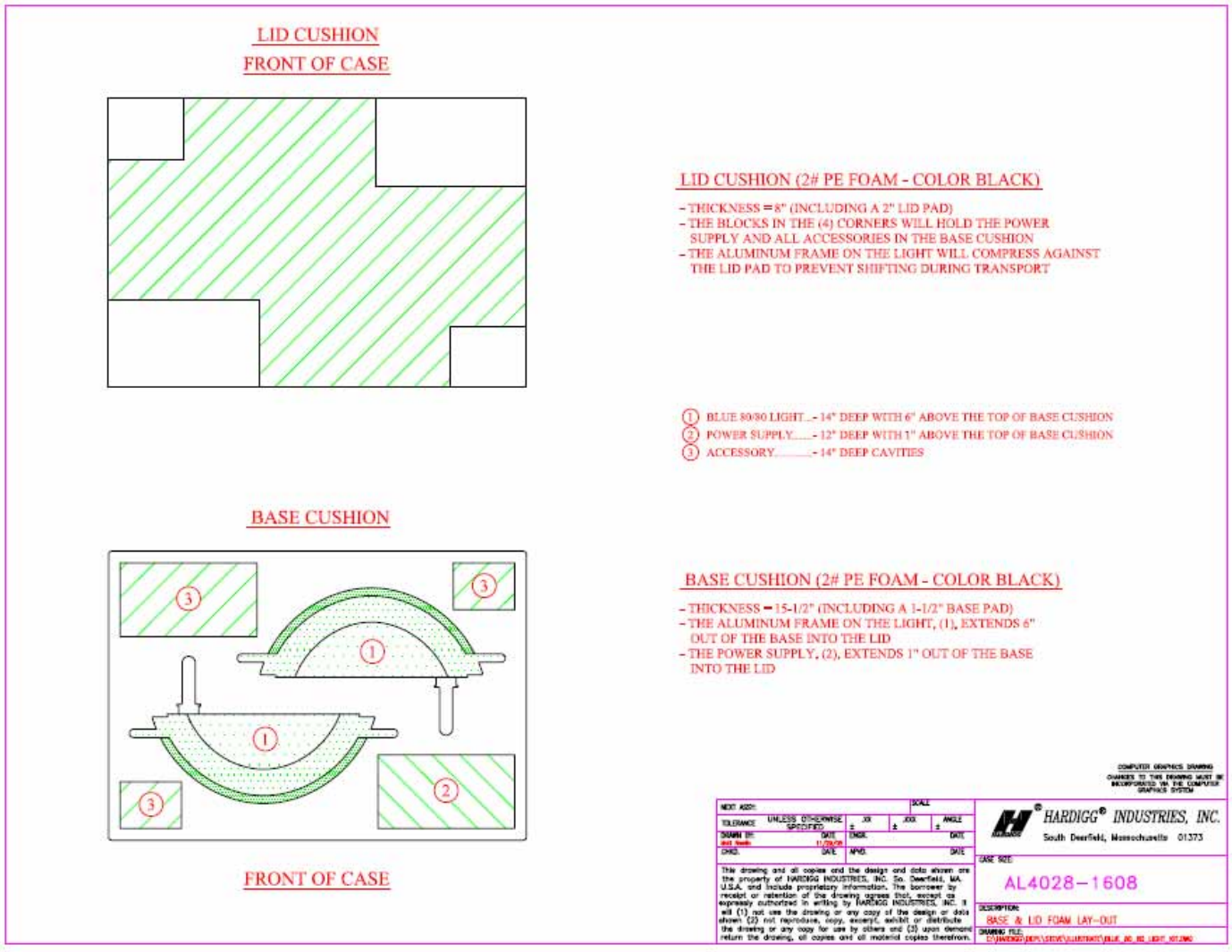
LID CUSHION
FRONT OF CASE
LID CUSHION (2# PE FOAM - COLOR BLACK)
- THICKNESS = 8" (INCLUDING A 2" LID PAD)
- THE BLOCKS IN THE (4) CORNERS WILL HOLD THE POWER SUPPLY AND ALL ACCESSORIES IN THE BASE CUSHION
- THE ALUMINUM FRAME ON THE LIGHT WILL COMPRESS AGAINST THE LID PAD TO PREVENT SHIFTING DURING TRANSPORT
1 BLUE 80/80 LIGHT...- 14" DEEP WITH 6" ABOVE THE TOP OF BASE CUSHION
2 POWER SUPPLY.....- 12" DEEP WITH 1" ABOVE THE TOP OF BASE CUSHION
3 ACCESSORY.....- 14" DEEP CAVITIES
BASE CUSHION
FRONT OF CASE
BASE CUSHION (2# PE FOAM - COLOR BLACK)
- THICKNESS = 15-1/2" (INCLUDING A 1-1/2" BASE PAD)
- THE ALUMINUM FRAME ON THE LIGHT, (1), EXTENDS 6" OUT OF THE BASE INTO THE LID
- THE POWER SUPPLY, (2), EXTENDS 1" OUT OF THE BASE INTO THE LID
HARDIGG® INDUSTRIES, INC.
South Deerfield, Massachusetts 01373
AL4028-1608
BASE & LID FOAM LAY-OUT

Figure 67: BLUEMMSA Reusable shipping container

GETINGE

Telephone (800-950-9912)
Getinge USA, Inc.
1777 East Henrietta Road
Rochester, NY 14623-3133 USA
Fax (800)-950-2570